

*Fire  
Services  
Assessment  
for  
Moore County,  
North Carolina*

*March, 2013*



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## **Preface**

During the period of January through March 2013, a consulting team from VFIS Education, Training and Consulting (VFIS-ETC) conducted a documentation review and site analysis of the fire services provided to Moore County, North Carolina. This work effort was consistent with the scope of work described in the proposal agreed upon between Moore County and VFIS-ETC, which is detailed later in this report.

The Board of Commissioners of Moore County is to be congratulated for their proactive initiative to evaluate its fire department services and in developing a plan for the future. Too frequently communities undertake such activities following major adverse events, functioning reactively, instead of proactively such as Moore County officials have done.

It must be noted that the interests expressed by the Board of Commissioners, the county staff and the members and staff of the fire departments were focused upon providing quality service to the residents, workers, and visitors to Moore County. There were many positive efforts and programs found to be in place within the services provided to the County. While much of this report centers upon action to be taken to enhance long term performance, everyone recognized the fire companies perform the work that needs to be conducted at the time of an emergency.

There were seven (7) primary activities involved in this project.

1. An introductory meeting was held with the Interim County Manager, Emergency Services Team and the Office of Emergency Services to establish an understanding of project involvement and expectation as well as a timeline to complete the project. The individual fire departments were provided with self-assessment tools and a series of questions to complete in order to establish baselines of performance. A list of necessary documents needed for review and people to contact was also submitted prior to the consulting team arrival.
2. “Self Assessments” and “Statements of Issues and Concerns” were previously sent out and obtained from each department, and a compilation and analysis of the data provided, were completed.
3. Site visits to each fire station were made to confirm self assessment information, review commentaries submitted, and establish a structure for possible solutions to identified issues. In most cases, the fire department officers were open and provided applicable documentation to the teams and provided “tours” of facilities and apparatus.
4. A number of documents were reviewed as submitted by the township, including, but not limited to:
  - State Fire Marshal/Insurance Services Office Report, where available
  - Various fire department response summaries and documents,
  - Existing Standard Operating Procedures/Guidelines,
  - Emergency dispatch center data files, and
  - Miscellaneous pertinent information.



5. Specific meetings were conducted with Moore County Management, fire departments, and self-assessments were completed and analyzed. In addition, meetings were conducted with county staff to assess their perceptions and comments.
6. Follow-up activities with the Emergency Services/Fire Marshal offices, and selected Fire Chiefs, were conducted as necessary.
7. This document is the result of the completed and consolidated efforts of the six aforementioned activities.

We wish to complement the Board of Commissioners of Moore County, North Carolina, and the officers and membership of the various Fire Departments for their proactive initiative and participation to evaluate long-term needs of the community's fire services; and for their willing and active participation in the process of completing the evaluation.

## **Statement of Work**

This proposal provides for VFIS to analyze and assess the fire service delivery system for a changing Moore County, North Carolina and make recommendations as appropriate, regarding the key performance areas that will address those changes and subsequently serve to provide an integrated fire service delivery system for proposed use.

## **Scope of Work**

### **OVERVIEW**

VFIS is pleased to submit this Scope of Work for consideration to Moore County, North Carolina to conduct a countywide Fire Protection Study. This study will include:

1. An analysis of the strengths and weaknesses of the fire departments that provide emergency services, including:
  - a. Fire suppression
  - b. Rescue
  - c. Medical response
  - d. Hazardous materials responseand develop a comprehensive Fire Protection Master Plan for the county
2. A definition of fire protection needs for the county as a whole and for each of the 16 fire departments.
3. A recommendation on how fire protection should be funded,
4. A recommendation on what, if any changes to the various fire district lines should be made to accomplish the fire protection needs, definition and goal.
5. An analysis of the administration and organization of fire suppression forces including:
  - a. evaluations of apparatus
  - b. equipment inventory and mobile water supply apparatus
  - c. identification and evaluation of water sources
  - d. future station locations and size recommendations
  - e. personnel requirements
  - f. budget analysis and financing options for the fire service
  - g. insurance ratings
  - h. analysis of population distribution and future growth trends
  - i. conduct a risk analysis of target and special hazards
  - j. evaluate training programs of firefighters, pump operators and officers
  - k. determine an adequate cost for operation, maintenance and administrative costs.

VFIS would propose to use its typical customized approach to this project. The main focus points as presented by the RFP are included in the proposed statement of work which follows:

### **PHASE I – Initiate Project**

- Upon award of contract, a joint planning discussion will occur with representative of the Moore County and VFIS leadership teams to develop a project plan. This will result in a plan that defines:
  1. Primary tasks to be performed
  2. Person(s) responsible for each task
  3. Timetable for each task to be completed
  4. Method of evaluating results
  5. Resources to be utilized
  6. Possible obstacles or problem areas associated with the accomplishment of each task. This plan will be completed within 14 days of the awarding of the project to the consultant. This plan will list actions of proposed interviewees.
  7. Data requirements will be presented to the Moore County Leadership Team.
- Through a series of meetings and similar activities, gather information from the following:
  1. County Commissioner(s) – as desired
  2. County Manager
  3. County Fire Marshal
  4. County Planner
  5. Other County officials as deemed necessary/appropriate
  6. Representatives of the business community
  7. Representatives of Educational Agencies
  8. Emergency Dispatch Center
  9. Conduct two public hearings/meetings as deemed necessary to gain citizen input
  10. Representatives from each of the fire departments in the County (See Phase II)
  11. Law Enforcement leaders as deemed appropriate
  12. Others as they may contribute to this project, with approval of staff

**Each of the primary responding agencies will be asked to complete a self-assessment questionnaire (based on current industry best practices and a proprietary analytical tool developed by VFIS), which will then be correlated and validated by the consultants working on this project.**

From these interviews, the consultants will obtain an additional perspective on operational, staffing, economics, and policy issues facing the fire service. In addition the consultant will learn more about availability of data necessary to meet projected goals.

## **PHASE IIA – Emergency Services Information Review/Analysis/Direction Setting**

1. Define and determine the fire protection needs for Moore County.
2. Conduct an analysis of the administration and organization of fire suppression forces and make recommendations for improvement.
3. Conduct an analysis of insurance (ISO) ratings and make recommendations for improvement.
4. Conduct an analysis of each fire station's location in relation to insurance district and response district boundaries including coverage maps.
5. Conduct an evaluation of fire apparatus to include, but not limited to the following:
  - Inspect all apparatus on site; review pump test records, evaluate age and condition, compare pump capacity with the needs of the area, and projected replacement dates.
  - Evaluate all mobile water supply apparatus by making on site flow and operational tests. Assign gallons per minute (GPM) rating based on the ability of each one to haul water over a distance of up to five miles. (Based on reports received)
  - Determine the amount of usable water, and make recommendations for improvement or replacement of tankers.
  - Make recommendations, along with documentation of the need, for additional apparatus with suggested specifications where needed.
  - Prepare an apparatus replacement schedule to be included in the final report by comparing both the apparatus recommendations of NC DOI, OSFM, NFPA 1901, and NFPA 1911.
  - Prepare a recommended long range capital budget to provide for replacement of apparatus in a timely manner, along with suggested methods of funding.
  - Compare the inventory of equipment that is available on all apparatus with NC DOI OSFM requirements and make recommendations on priorities and schedule for eliminating deficiencies.
  - Prepare tanker coverage maps showing GPM capabilities in each portion of the area based on the water supply points that have been identified and the capabilities of tankers that were established when they were evaluated. One map should show the existing flow capability and a second showing the expected flow capability after all recommended improvements have been made.
  - Prepare water supply coverage maps based on the distance around each hydrant system and water supply point that the tankers can travel as estimated on the tanker coverage maps. One map should show existing capability, another showing the proposed improvements.
  - Perform a risk analysis on specific target hazards and problem areas that have been identified by the fire department with fire flow needs and specific methods of satisfying them. This analysis should include detailed fire flow capabilities in areas that have to depend on mobile water supply to meet the needs of the risk.
  - Define the personnel requirements in order to provide for the fire protection needs considering the use of all volunteer, combination, or paid personnel.
  - Determine the adequacy of personnel in each fire department including a review of the number of alarms, average response to each of them, and the total number of active members in the department.
  - Make recommendations for providing additional personnel where it is needed.

- Review standard operating practices and response to alarms, and make recommendations for improvements where they are needed.
- Review training records and determine the number of firefighters that have been certified by the state, in addition to those who have attended formal training, participation in formal training programs and local training programs, and whether the individual records contain sufficient detail to meet the legal requirements and NC DOI OSFM standards.
- Evaluate the overall training program for firefighters and officers with special emphasis on mutual aid and inter-company training activities and make recommendations for improvement.
- Provide recommendations for training of officers, pump operators, and firefighters that would enable them to develop the skills that will be needed to implement this long range plan and improve the ISO rating of the rural departments.
- Conduct an analysis and determine the operating cost for each department.
- Conduct an analysis and determine the cost of training the personnel of each department.
- Conduct an analysis and determine the administrative cost for each department.
- Determine the cost of fire protection needs for each fire district and for Moore County collectively.
- Conduct an analysis and determine the current and future financial needs of each department including and five year and ten year capital improvement plan.
- Recommend funding options that are available to Moore County.

## **SPECIFIC CONCERNS TO BE ADDRESSED IN THE STUDY**

*Consistent with the Request for Proposal, the following specific concerns will be addressed in the study. A number of specific concerns have been identified that will have to be dealt with in this study, along with questions that need to be answered and decisions that will have to be made to meet the fire protection needs to all of the citizens and taxpayers, now and in the future.*

### **Objective No. 1: Organization Overview**

An overview of the agencies shall be developed including but not limited to:

1. Responsibilities and lines of authority
2. Organizational structure/Chain of command
3. General description of each fire/rescue/EMS agency
4. Structure and operational functionality

### **Objective No. 2: Planning for Fire Protection and Medical Response**

The agencies planning process shall be identified. Key components shall include but are not limited to:

1. Review and evaluate the current planning process
2. Identifying critical issues and analyzing current and future services
3. Recommendations relative to future planning needs

### **Objective No. 3: Risk Management Loss Potential**

Elements in the communities of significant risk and affecting suppression and medical capabilities will be reviewed, including but not limited to:

1. Risk analysis, including relationships between personnel, fire flows, equipment, training levels, capabilities and response time
2. Construction trends in the communities
3. The presence or absence of automatic suppression and extinguishment systems
4. Seismic and natural weather impact
5. Potential for man-made disaster

### **Objective No. 4: Fire Prevention Program**

Review and make recommendations regarding the overall delivery and effectiveness of current and future fire prevention activities. Areas to be reviewed include but are not limited to:

1. Code development
2. Code enforcement
3. New construction plan review, inspections and involvement of operations
4. Fire safety/education
5. Fire investigation
6. Statistical collection and analysis

### **Objective No. 5: Suppression/First Responder and EMS Delivery Systems**

Review and make recommendations in areas specifically involved in or affecting service levels and performance. Areas to be reviewed shall include, but are not limited to:

1. Facility locations
2. Fire, Rescue and EMS district response areas
3. Water supplies
4. Insurance districts
5. Fire Responder, Paramedic QRV and ALS/BLS Transport units
6. Projected community development and growth
7. Incident control and management
8. Risk analysis
9. Traffic patterns, congestion and calming measures

### **Objective No. 6: Analysis of Calls for Service**

Calls for service shall be documented for each agency for the most recent three calendar years.

Key components include but are not limited to:

1. Analysis of the types of calls for service
2. Analysis of call responses within each agency's jurisdiction evaluating number of personnel, appropriate type and quality of apparatus
3. Response Times

### **Objective No. 7: Personnel Management**

The personnel management program for career and volunteer personnel shall be reviewed, focusing on:

1. Policies, rules, regulations and operational guidelines
2. Compensation and benefits

3. Reports and records
4. Disciplinary process
5. Counseling services
6. The application and recruitment process
7. Personnel retention
8. Testing, measuring and promotions process
9. Health and safety

**Objective No. 8: Staffing**

Review the career and volunteer staffing levels of the agencies. Areas to be considered include but are not limited to:

1. Administration and support staff
2. Operations staff
3. Utilization of career and volunteer companies
4. Responsibilities and activity levels of personnel
5. Cultural diversity

**Objective No. 9: Capital Improvement Plans**

Identify current and future needs relative to the purchase of necessary capital improvement items including but are not limited to:

1. Fire stations, EMS stations, training facilities and other structures
2. Apparatus
3. Protective equipment (turnout gear, SCBA, etc.)
4. Support equipment
5. Rescue equipment
6. Communications equipment
7. Methods of financing capital needs

**Objective No. 10: Training Programs**

Review and make overall recommendations in critical areas involving training. Items to be reviewed include but are not limited to:

1. General training competency
2. Training administration
3. Training schedule
4. Training facilities
5. Training program goals and objectives
6. Clerical support
7. Administrative priority

**Objective No. 11: Facilities**

Tour and make recommendations in areas critical of current station locations and future station considerations. Items to be contained in this report include but are not limited to:

1. Locations
2. Age, condition, serviceability
3. Apparatus and equipment needs
4. Traffic patterns

5. Impact of roadways and street networks
6. Impacts of land use and related criteria
7. Jurisdiction boundaries
8. Future service demands
9. Changing/challenging demographics
10. Short and long term viability of volunteers
11. Projected growth and trend analysis

**Objective No.12: Apparatus and Equipment**

Review and make recommendations in areas critical to apparatus and equipment. Items to be contained in the report include but are not limited to:

1. Age, condition, serviceability
2. Replacement schedule
3. Distribution and deployment
4. Compliance with Regulations/Standards
5. Recommended additions to facilities, apparatus and equipment
6. Recommended reductions to facilities, apparatus and equipment
7. Maintenance of apparatus
8. Future needs

**Objective No. 13: Contract Administration**

Review and make recommendations relative to contracts with other agencies, to include but not limited to:

1. Availability, strengths and weaknesses
2. Compensation (if applicable)
3. Alternatives to the agencies

**Objective No. 14: Fiscal Analysis**

Review and analyze each department's budget, including revenues, expenditures, reserve funds and long-term debt to project future financial needs:

1. Review budget
2. Financial controls
3. Identify financial issues of consideration
4. Identify possible areas of short and long-term savings and costs
5. Identify each agency's revenue source(s) and describe impacts of each
6. Identify future financial funding models

**Objective No. 15: Plan for Implementation**

A plan of implementation shall be developed as a product of the evaluation. This plan shall include but not be limited to:

1. Major and/or significant projects
2. Responsible parties



VFIS will meet with and consider input from each fire department chief and its board of directors.

- Data received by VFIS will be evaluated in concert with additional documents received from each agency meeting, including but not limited to:
  - A Risk and Demand Analysis for each fire company to determine resources needed including, but not limited to:
    - Staffing
    - Equipment
    - Specialized equipment
    - Cost estimates for equipment
  - The analysis for each station will include a Station Location and Response Time Analysis to determine the possible need to modify fire & rescue districts, establish new stations or move stations.
  - Evaluate training programs and officer qualifications to assure an adequate and consistent level of service can be provided.
  - Evaluate and determine the need for the extent of mutual aid activity and the existence of/need for standard operating guidelines at the county level. This would include the current interface of local fire companies to the Fire Marshal with the intent to develop as much standardization of reporting, operations, and performance as possible.
  - Review the contracts in use by the county and the relationship to each organization's operating practices.
  - Review the budgeting process for each agency and countywide approaches in place or that can be integrated to make appropriate recommendations related to operating budgets, funding, fees, funding resources, and funding alternatives; as well as purchasing opportunities which may save money.

The following information will be provided by Moore County for review by VFIS:

- A list of fire stations and a map showing the location of each of them, outlining each fire insurance district and response district.
- An inventory of the apparatus that is housed in each station, along with information on the age and condition.
- An inventory of the equipment that is carried on each piece of apparatus or available in each station.
- Budget information on each fire department including the amount and source of funding and expenditures in general categories.
- Information on personnel available in each department, status of training, and average response to alarms.
- ISO ratings for each department and a copy of the results of the latest ISO evaluation where it is available.

- Scale maps showing all roads, water lines, and hydrant coverage. (Provided by Moore County's GIS Department.) Potential static or alternate sources of water for filling tankers that have been identified. (Provided by each fire department.)
- Data on population distribution, growth trends and projections, and expected property valuations for various areas.
- Locations and descriptions of target hazards or special problems that are to be evaluated.
- Opportunities will be identified for standardization, benchmarking and service delivery. They will include analysis of:
  1. ISO Reports
  2. Prior Consulting Reports
- VFIS will review the current state of the volunteer fire service in Moore County and provide recommendations as to what can be done to preserve this service (recruitment and retention practices). As part of this review, VFIS will review the current organization's operational and management structure to include policies, procedures and organizational guidelines, and opportunities for any consolidation. As noted earlier, data will be analyzed to develop a hypothetical standard of response cover for each agency and countywide.
- VFIS will also use its proprietary products of budget analysis and capital planning to analyze income stream and incurred expense relationships for long term apparatus purchasing financial obligations.

## **PHASE IIB – Site Visits and Meetings**

- VFIS will conduct a series of site visits and meetings in Moore County at the convenience of the staff and volunteers, to assure the project team meets with those individuals/groups indicated in Phase I.

These visits will enable VFIS to acquire physical observations and assessments, enable interviews with various individuals and community members.

- This effort will include the Fire Services function, staffing, level of impact/effectiveness, and options to enhance community fire safety.
- Upon completion of all visits and data gathering the consulting team will validate/redefine assumptions, recommendations, and re-query as needed.
- A comparison will be made to national and regional benchmarks.

NOTE: It is anticipated that Moore County will provide an individual who will play a key role in coordinating meetings.

## **PHASE IIC – Evaluation Items and Report Components**

### **Activity:**

Upon completing phase IIB, a summary evaluation will be prepared which will discuss the following aspects:

- Organizational Overview & Design
- Management Overview
- Mission, Vision and Goals of the organization
- Standard of Cover
- Personnel Management
- Staffing including recruitment and retention
- Recordkeeping
- Communications (internal and public communication/relations)
- Funding (including budgeting and financing)
- Capital Improvement Plan (including financing model)
- Facilities
- Fire and Rescue Station location and effectiveness
- Apparatus and Equipment (type, serviceability and future needs)
- Training
- Standard Operating Procedures, policies and organizational guidelines
- Officer Qualifications
- Mutual Aid Agreements & Relationships
- Response Times

## **PHASE III – Prepare Draft Report**

A draft report will be submitted to Moore County that will undergo a process review for accuracy by key Moore County representatives and the consultant in preparation for the production of the final report. A meeting will be held with the assigned Moore County team as well as a public meeting. The editorial and critical comments obtained shall be considered as essential information in the final report.

## **PHASE IV – Prepare Final Report**

Adhering to the parameters as established by the County, VFIS will prepare and present an oral and written report, in a meeting environment, focused for stakeholders in the process and local elected officials (as well as the public). In addition to the number of requested hard copies of the report (TBD), VFIS will also provide an electronic/PDF version of the final report suitable for posting and distribution on a public access website. The report will detail the data and information acquired during the engagement and the consultant's analysis and recommendations; including recommended timeliness for implementation of recommendations, and if applicable, cost factors involved.

## **Executive Summary**

The nation's volunteer fire service is changing. Given the extent of these changes and at times the lack of awareness or even unwillingness to accept external forces on the emergency service system, it is important to help drive change before change drives an organization.

Longtime volunteers often look back on the “way it used to be.” They recall a time when training was much less demanding and time consuming and the local fire department had fewer responsibilities. Fires and accidents were the primary activity. Attendance and training standards were achievable. There were fewer calls but each was an event that required the assistance of neighbors, who took great pride in their membership in the local department. The community appreciated their neighbors' help, local businesses supported the volunteer fire department, and the call volume was small enough so as not to interfere with the requirements of the members' jobs. The system was manageable, the emergencies were mitigated, and it was fun to be a member.

The reality today is that in many communities, to be a contributing, effective firefighter, a person has to meet significantly higher standards physically, in terms of training, and in terms of time “on the job” gaining experience. Not everyone has the luxury of time or in some cases the inclination, to meet those requirements in today's hectic environment. The fire department is no longer just a group of people trained to suppress fire and render first aid. It has become the premiere provider of choice for different levels of emergency medical services and in many cases transportation, as well as the provider of just about every other service that is not provided by the police department—hazardous materials response, high-rise and below-grade rescue, inspections, prevention and education, and community emergency planning and management, to name a few.

This is not to say that volunteers can't handle the job, for their abilities and successes are demonstrated daily in many places from coast to coast and border to border. But where they cannot, community and fire leaders are challenged to meet their community's needs. In some cases, they will find ways to reinvigorate the volunteer members of their departments and improve their performance. In others, they will recognize the need for another type of change, moving to some form of partial or fully paid department, and they will set out to make it happen. The fire departments that serve Moore County have rich and proud traditions. To this day, the departments strive to maintain volunteer/combination status, serving the community with state of the art equipment. The departments have progressed significantly since that era. While they continue to serve, challenges posed today present many more risks requiring capabilities for not only structure fires, but various rescue scenarios, hazardous materials incidents, mass casualty incidents, brush fires and more; all of which require specialized training, equipment and capabilities. In addition, fire and injury prevention services are provided to help mitigate potential incidents, with children, as well as adults, learning on a continuous basis about the dangers of fire and how best to avoid and prevent the devastation that fire can cause.

## MOORE COUNTY HISTORY<sup>1</sup>

Archaeological findings indicate that Indians of the Siouan family inhabited the area that is now Moore County from as early as the beginning of the sixth century, until about 400 years ago. They hunted and camped throughout the area and, in places, settled in villages. A well-used Indian trail, which crosses the County, is thought to have first been beaten out by buffaloes on their annual migrations from the piedmont to the coastal marshes. This trail, which later came to be known as the Yadkin Road, played an important role in the early settlement of Moore County.

The earliest European settlers came to the region about 1739. During the ensuing years, additional settlers, largely English, Ulster Scots, and Germans moved into the area, traveling down the "Great Wagon Road" from Pennsylvania or up the Cape Fear River Valley from Wilmington. Most settled on the fertile lands of the "clay country" along the Deep River in northern Moore County. By the mid-1750's, the area was sparsely, but evenly settled.

The next twenty years saw a large influx of settlers, particularly Highland Scots, who immigrated to the colonies to escape the harsh economic and political conditions, which existed in Scotland at the time. These Highlanders settled in the Sandhills of the southeast, an area bypassed by earlier settlers due to the poorness of the soil. The industrious Scots, making the best of what they had, soon established the manufacture of naval stores as a major industry of the vast forests of longleaf pines.

The American Revolution curtailed the influx of settlers to the area and set the stage for bitter conflict. The Highlanders, who had taken an oath of allegiance to the King of England before leaving Scotland, remained loyal to the British throne; settlers in the "clay country" supported independence. Although no major battles were fought in Moore County, the guerrilla warfare between the two factions was bloody. The Highlanders paid dearly for their political views after the defeat of the British, facing the scorn of their neighbors, and in some cases, confiscation of their property and exile from the State.



In 1783, shortly after the end of the American Revolution, Moore, until that time a part of Cumberland, officially became a County. The new County was named for Alfred Moore of Brunswick, a famous militia colonel in the Revolution, and later a Judge of the Supreme Court of the United States. The citizens quickly set about establishing their government. As the area recovered from the disrupting effects of the war and began to prosper, some schools were built

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<sup>1</sup> <http://www.co.moore.nc.us/index.php/our-history>

and several industries flourished in the North, including a gun factory in Robbins and a carriage factory in Carthage. The Sandhills area continued to lag behind.

The Civil War put an end to all progress, as every able-bodied man went to war. After the war, Moore County had a long struggle to recovery. But, in the 1870's, the Raleigh and Augusta Railroad came through the Sandhills, providing a means to ship the products of the pine forests. Little towns sprang up every ten miles or so along the line to serve as shipping points.

During the 1880's, yet another industry developed in Sandhills. At that time, there were a number of human ailments for which the only treatment was fresh air and mineral water. The area had an abundance of both, and plenty of cheap land. Town sites were laid out up and down the rail line. Soon, people wishing to improve their health or seeking "refuge from the northern blizzard" began to flock to the resort towns. Shaw's Ridge, later incorporated as Southern Pines, became the most popular. Several years later, in 1895, Pinehurst was built; a complete resort village with an elegant inn, electricity, and a telephone system.

Moore County is in the south central region of the State and is bordered by Cumberland, Harnett, Hoke, Scotland, Richmond, Montgomery, Randolph, Chatham, and Lee counties. The present area is 705.49 square miles or 451,514 acres. The population is in excess of 69,502 citizens.

## **FORM OF GOVERNMENT**

Prior to the American Revolutionary War, North Carolina depended on a form of county government which was organized around a court known as the Court of Pleas, with three Justices that governed the County with judicial and administrative responsibilities.

The Court of Pleas appointed the Sheriff, Coroner, Register of Deeds, County Attorney, Clerk of Court, County Treasurer, Surveyor, and Warden of the Poor. The Justices also heard all civil and criminal cases that did not involve capital punishment.

In other words, the County was a self-contained political unit with no townships and no citizen control over what the Court did in terms of the government.

In 1868, the North Carolina Constitution was rewritten and the functions of county government were divided between the Superior Court and a Board of County Commissioners composed of five members elected by the citizens. Over the years, various changes were made concerning the responsibilities given to the Commissioners until in 1905, the people finally were given direct control over the Commissioners in all counties through the ballot box. Townships have no powers.

"Except as otherwise directed by law, each power, right, duty, function, privilege and immunity of the County shall be exercised by the Board of Commissioners as provided by the laws of the State; and if a power is not conferred by the State, the power or

responsibility shall be carried into execution as provided by ordinance or resolution of The Board of Commissioners."

Moore County Government is now formed as State law dictates. The Commissioners, Sheriff and Register of Deeds are elected. There is a Board of Elections, Board of Education, Board of Health, Board of Social Services and an Alcoholic Beverage Control Board that are formed under State Statute. The County Manager, Clerk to the Board, County Attorney and Tax Administrator are appointed directly by the Board of Commissioners. All other departments, agencies and offices that are directly under the administrative jurisdiction of the Board are organized as the Board sees fit. The Board also appoints various committees that serve at the pleasure of the Board.

The County of Moore is governed by a five member Board of Commissioners elected in a partisan election by qualified voters of the entire County for overlapping four-year terms of office. The elections are held in November of even-numbered years and the Board is formed on the first Monday of December.

Moore County has adopted the County Manager Administrative Plan, which entails the appointment of a County Manager to serve at the pleasure of the Board of Commissioners. The Manager is the Chief Administrator of county government, with responsibility for the daily administration of all departments of government under the Board's general control, with State statutory powers and duties.

The Board of Commissioners appoints a Clerk to the Board to perform all duties that are required by State law or the Board. The Clerk to the Board is a public officer that serves at the pleasure of the Board of Commissioners. The Clerk's Office helps to provide stability and also serves as a central resource office where the public may obtain information regarding Board actions and services or functions of county government.

The County of Moore exercises its powers and discharges its responsibilities through the Board of Commissioners; through the use of ordinances, resolutions, and orders, so long as these directives and regulations are not reserved as powers of the State.

The County is divided into ten townships for historical and administrative purposes with no legal or governmental authorities. The townships, with corresponding square miles, are as follows: Bensalem, 97.48; Carthage, 98.14; Deep River, 43.16; Greenwood, 44.95; Little River, 33.72; Mineral Springs, 101.33; McNeill, 76.68; Ritter, 54.24; Sandhills, 81.74; and Sheffield, 74.05.

### **THE HISTORIC COURTHOUSE**

The present Historic Courthouse, built in 1922 in Carthage, is the most recent Governmental Administration Building in a line of three previous courthouses.



According to various historical accounts, court proceedings were first held in Kenchion Kitchen's home, beginning in August of 1784, and in the homes of other area residents. The first courthouse was constructed in 1785, southwest of the present Historic Courthouse, and was described as "a rather crude log building, small in size", that was moved to the present Historic Courthouse site in 1814. In 1820, this log structure was replaced by "a two-story wood structure, which was built high above the ground, with the space beneath the building used as a market place." In 1840, a two-story brick courthouse was built with four offices on the ground floor and a courtroom on the second floor. With no belfry, the Courthouse bell hung outside above the door. The bell is now displayed on the grounds of the Historic Courthouse. There was a jail cell in the courtroom where prisoners were always conveniently available to the judge.



Wade Wellman, in his book entitled *The County of Moore: 1847-1947*, writes that the 1840 Courthouse that stood in the central square of Carthage was "two-storied and two-chimneyed", and had been built of clay bricks from Dabney Cosby's clay pits south of Carthage to replace "the rickety wooden structure."

On September 5, 1889, the brick Courthouse burned. Meade Seawell's book entitled *Edgehill Entry: Tale of a Tarheel Town*, relates the editor of *The Carthage Blade*'s description of the disaster. Editor Matthew Cagle laments that, not only were the 1889 tax books and records of the County Superintendent's Office lost, but the County records for over 100 years were destroyed by fire. According to Seawell, the ropes to the well buckets had been cut by the fire and the buckets were down in the well.

Wellman writes that the wooden portions of this building burned, but "within the walls of the Old Courthouse, built of locally molded brick, a new set of offices and doors were built and ready by the fall of the next year." According to Wellman, "the Old Courthouse was far outgrown and outdated. It was botched together of the brick and stone salvaged from the one that had burned down in 1889." Judge William J. Adams described the reconstructed Courthouse as "an uncertain composite of the old and the new."





A \$150,000 bond issue was passed, and on January 16, 1922, construction began on the present Historic Courthouse. The cornerstone was laid in August and the present building, constructed of Indiana Limestone, was dedicated on September 17, 1923.

A June 27, 1922, editorial in the Moore County News stated, "More and more each year, people drop into Moore County, and the stranger is impressed by the exhibits that meet the eye. The Courthouse was not an awakener of much enthusiasm a County with efficiency written on its public buildings makes a hit. The Old Courthouse was a drag. The new one (present) is an advance agent of enterprise."

When the present Historic Courthouse was finished, it was also described as "crowning the dominating ridge, visible against the blue-haze of the pines over the rolling Sandhills country; the Moore County Courthouse, glistening white in the brilliant Carolina sunshine is a significant exponent of the new age of peace, progress, prosperity, and plenty of our beloved Sandhills."

The new building housed offices for the Register of Deeds, County Commissioners, County Clerk, Sheriff, Superintendent of Schools, Home Economic Demonstrator and a lounge.

On the second floor was the courtroom and separate rooms for two petit juries, grand jury, judge, solicitor, attorney and witnesses.

There were 364 chairs facing the polished wood judge's bar, and on the third story were two large rooms for the Road Commissioners and Farm Demonstrator. On the third floor, overlooking the Courtroom, there was a gallery.

In 1979, the Old Courthouse was placed on the National Registry of Historic Places.

In keeping with the previously mentioned editorial in the Moore County News of June 27, 1922, which stated that "a County with efficiency written on its public buildings makes a hit", the Historic Courthouse underwent a renovation process in 1988.

In conjunction with the North Carolina Division of Archives and History, the interior was freshly painted, doors and brass were stripped of paint and restored to the original 1922 finish. This revitalization was continued on the exterior by professionally trimming the four stately oaks, and by establishing a previously non-existent lawn with plantings of holly, azaleas, flowers and native plants.

This renovation and attention to historical detail will continue as a symbol of the pride, service, efficiency, vibrancy and strength of the County of Moore.

In order to bring the Historic Courthouse into compliance with the Federal Americans with Disabilities Act, the County began work on additional renovations to the facility. Renovation projects began during the Fall of 1999, with the construction of a handicap ramp on the exterior of the building, followed by improvements to the public restrooms in the basement, making them handicapped accessible. On April 4, 2000, demolition began inside the Courthouse, for the installation of a Dover Oilhydraulic four-stop elevator. The elevator was completed and serviceable in December 2000.



The 2009 population of Moore County is recorded as 87,158. Owner-occupied residences are listed at 80%. Rental property percentage is consistent with statewide percentages. Major industries providing employment are:

- Educational, health and social services 22.1%
- Manufacturing 16.7%
- Retail trade 12.0%
- Arts, entertainment, recreation, accommodation and food services 10.8%

Races in Moore County are listed as:

- White Non-Hispanic 77.7%
- Black Non-Hispanic 14.7%
- Hispanic/Latino 5.6%
- Asian 0.7%
- American Indian & Alaska Native 0.6%

The county median age is 41.8 years, slightly above the statewide median 35.3 years. The average household is 2.4 people which is slightly higher than the statewide average; with an estimated median household income approximately 3.4% higher than the state median household income. The percentage of residents living in property is below the statewide percentage.

Since 1996, Moore County has been subjected to ten (10) natural disasters, less than the national average of twelve (12).<sup>2</sup>

The Moore Public Information Office released a survey for completion by the general public and the business community.

Questions were asked, and responded to as follows:

1. Does the current level of service of the fire department more than meet your needs, meet your needs, or fail to meet your needs? There were 62 total respondents. The results were:

Category	More Than Meets Your Needs	Meets Needs	Fail to Meet Needs
Individuals	19	31	9
Business	0	1	2

<sup>2</sup> [http://www.city-data.com/county/Moore\\_County-NC.html](http://www.city-data.com/county/Moore_County-NC.html)

2. Services I believe should be provided by the fire department, more than 50% responded:
  - Fire Suppression
  - Rescue
  - Hazardous Materials Management
  - Emergency Medical Services
  - Fire Prevention Education
  - Injury Prevention Education
3. Services I believe should not be provided by the fire department:
  - a. None of the six categories received close to 50% comment
4. There were a number of individual comments received, which have been summarized and included under separate cover.

**AT THE END OF THE DAY, THE OVER-RIDING ISSUE IS: WHAT THE WILLINGNESS OF THE POPULACE IS TO PAY ADDITIONAL FUNDS FOR FIRE PROTECTION SERVICES, AT WHAT RATE ARE THEY WILLING TO PAY, AND WHAT IS THE WILLINGNESS OF ELECTED OFFICIALS TO POLITICALLY DEAL WITH FUNDING INCREASES, TAX ASSESSMENTS, ETC.**

The information within this report provides analytical input into the process, which is a local management and political decision making scenario.

The chart starting on Page 30 of this report is provided for consideration as a starting point for long term transition. While all actions must be determined locally, the following chart indicates that discussions need to begin with all agencies involved so that a smooth transition takes place to insure adequate fire service is maintained throughout this process. Based on the plan to be implemented, a time line needs to be developed for affected departments. It is critical that the affected departments are involved with this process at the onset of the planning.

There are recommendations to consolidate stations, modify districts, reduce equipment (or add equipment). These recommendations are made to enhance service delivery, better manage costs and inspire assurance and are based upon a more regional approach versus town by town. While some agencies expand and some contract, it is the resident, visitor and worker that we must consider in our planning.

Several resources are provided under separate cover to aid in implementing these recommendations, particularly regarding consolidation, recruitment and retention, and financial/operational management.

This report does NOT create a county fire department, but allows individual agencies/municipalities to maintain their individuality while functioning regionally.

Based upon this assessment, there are 35 recommendations provided for consideration. It intended that these recommendations are offered in an effort to raise issues for resolution. There

may indeed be alternatives and the ultimate decision may be to do nothing. These are political decisions that need to be made locally. Though the recommendations have foundation in current national best practices as identified for each recommendation, the decision to implement them is a local one, based on local resources, local concerns, an ability or inability to pay for fire protection, and political influence.

## **RECOMMENDATIONS**

- 13-01 Establish a Service Delivery Statement which indicates the types of services to be provided, the area to be covered, and the delegation of authority to perform those services. This will also serve as the basis for development of annual goals, objectives and funding requests. Consistent with the development of these documents is a Standard of Response Cover for use in Moore County as a method to define a service expectation the community will accept. This will also serve as a benchmark to determine when and where career staff is needed for firefighting services. Examples of these draft statements (Mission, Vision, and Service Delivery Statement/Standard of Cover) are provided within this report.
- 13-02 A standardized approach to incident reporting should be established with each fire department and the emergency medical service providing computerized monthly statistical information to the Fire Marshal's office for consolidation into a monthly report on fire and EMS activities within Moore County. This will enable the County to demonstrate the need for expending funds for fire and EMS provision and provide data for analysis of developing fire and EMS situations within the County. This should be part of a more comprehensive information technology policy for all facets of the Fire and EMS system. All agencies should complete data in Firehouse software to assure proper recording of incident information, trending analysis and funding distribution.
- 13-03 Each agency should complete an annual report for release to the public, and submission to the public safety office for inclusion in county wide annual report. Included should be a projected costs savings to the taxpayers, through the utilization of the National Volunteer Fire Council's "Volunteer Fire Service Cost Savings Model", available at [www.nvfc.org](http://www.nvfc.org).
- 13-04 To enhance operational efficiency, reduction of assets and related costs, improve service to the community, and work toward insurance rating improvement the following consolidations should be considered:
- Crains Creek becomes a substation of Cypress Pointe
  - Crestline becomes a substation of Aberdeen
  - Robbins Fire Department and Robbins Rescue Squad merge
  - Seven Lakes, Eagle Springs, Seven Lakes EMS and West End administratively merge into one district, but maintain all current stations.
  - Long term consideration should be given to the ultimate administrative merger of Highfalls, Westmoore and Robbins into one district (after Robbins Fire & Robbins EMS merge) but maintain all current stations.

Based upon the current and projected growth within the county, begin a three step process for long term consolidation of services to improve the long-term performance of the delivery of emergency services in the county. A hypothetical model is detailed in the report. The three step process involves a transition plan to move from “current status” to an “interim recommended status” to a “long term suggestion”. These are defined in the “Management and Governance” section of this report, and characterized/defined as follows:

- Step 1 – Current status of the department
- Step 2 – A transitional approach to management/funding/operations model to move between Step 1 and 3. Consideration must be given to assuring the operational and funding processes are defined in place before full transition occurs.
- Step 3 – Long term (estimated three to five year objective) to serve as the delivery system for that fire response area.

- 13-05 To assure the closest apparatus responds to an incident, thus improving service delivery and the insurance rating of various sections of the county, response districts should be changed (revising the response boundary lines), consistent with the enclosed maps in the following areas:

- Cypress Pointe -Southern Pines
- Crains Creek
- Seven Lakes – Eagle Springs
- Carthage – Cypress Pointe
- Pinebluff – West End
- Aberdeen – Crestline

As well as the opportunities presented by a shift in demographics and use of GIS modeling for travel distance in affected area.

- 13-06 Once the new 911 center is fully operational, contact the North Carolina State Fire Marshal’s Office (NCOSFM) for re-evaluation of the NC-DOI(ISO) recommendations for the County Communications Center (related to telephone lines, number of operators, and emergency power supply for alarm dispatch circuits) to determine the potential to receive full NC-DOI(ISO) credit.
- 13-07 Several fire stations require structural repairs (Non-imminent danger) and/or cosmetic improvements to enhance the working environment. These stations include:
- Highfalls FD
  - Crestline FD
  - Pinebluff FD
- 13-08 Point of capture diesel exhaust systems should be installed in all fire stations that do not have them currently. A county-wide grant should be submitted to the Assistance to Firefighter Grant Program to fund this effort.

- 13-09 New fire/EMS stations are planned for and should be built to provide for service enhancement and insurance rate reduction as follows:
- Southern Pines Substation (with EMS)
  - Cypress Pointe Substation (no EMS)
  - Carthage-Highfalls-Moore County EMS joint station
- 13-10 In order to provide for improving upon current NCOSFM deficiencies, assuring equipment flexibility in all areas of the county, and to enhance overall service delivery, quint-style aerial ladders (75 feet in length, with at least 1000 GPM pumping capacity and 300 gallon water tanks) should be considered for:
- Cypress Pointe
  - Carthage
  - Pinehurst
- Quality used apparatus may be obtained at a significant discount and fulfill this recommendation.
- 13-11 Implement a permit requirement for all new/upgraded residential fire alarm systems in the county similar to that for commercial structures. All fire alarm systems would require a permit to be UL certified (UL certificate to be provided to the county) to ensure a robust alarm system is installed with minimal possibilities for malfunction/false activations and permit filing would require providing emergency contact information. Plans for locations of detectors, etc. would be reviewed by a knowledgeable county official (Fire Marshal's Office) who can assure placement would not facilitate false alarms (e.g. smoke detectors near showers or kitchens). A county official should inspect final installation to confirm appropriate locations for detectors for effectiveness and minimal false alarms. A related fee should be implemented to cover related staff costs.
- 13-12 Continued effort should be expended on development, revision, and distribution to automatic aid agencies of pre-emergency plans for target hazards in local agency districts.
- 13-13 A water supply analysis-delivery system based on a target hazard in each community should be developed and revised as appropriate in each agency assuring the water supply can be achieved or alternative firefighting considerations defined.
- 13-14 A long-term capital funding model is recommended. A projected plan for apparatus to be purchased at the rate of one engine per year, one rescue-engine per year, one aerial device every other year, one heavy rescue every three years, one brush truck every year and two small vehicles each year, is a general average purchase resulting in a related funding requirement. The decision is whether this would be the responsibility of the buying agency or through the county purchasing system. In either case, the funding would come from some tax-based source.
- 13-15 A process for determining replacement fire apparatus needs to be implemented. A chart provided in this section provides an evaluation tool which should be completed for each

piece of apparatus in the fleet. This will help determine potential longevity of the apparatus as well as help in determining financing operations.

- 13-16 Going forward, in concert with any funding provided by the county, assurance should be made that a signed contract is secured with each responding agency. The contract should include the following language to assure, if the agency is dissolved for any reason, that the assets obtained with public funds going forward, are properly disposed of.

In the event of a dissolution of the fire department (FD) or the winding up of its affairs, or other liquidation of its assets, the FD's property shall not be conveyed to any organization created or operated for profit or to any individual for less than the fair market value of such property, all assets remaining after all debts and expenses of the FD have been paid provided for shall be conveyed or distributed by the Board of Trustees to one or more organizations qualifying for the exemption afforded by Section 501 (c) (3) of the Code. Any assets not so distributed shall be disposed of by a Court of Common Pleas of competent jurisdiction exclusively for such purposes or to such organization or organizations, as said or shall determine which are organized and operated exclusively for such purposes.

No part of the net earnings of the FD shall inure to the benefit of any Trustee of the FD, Officer of the FD or any private individual (except that reasonable compensation may be paid for services rendered to or for the FD affecting one or more of its purposes), and no Trustee or Officer of the FD shall be entitled to share in the distribution of any of the FD assets upon dissolution of the FD. No substantial part of the activities of the FD shall be the carrying on of propaganda, or otherwise attempting to influence legislation, (including the publication or distribution of statements), any political campaign on behalf of any candidate of public office.

- 13-17 Establish a single fire tax rate for non-municipal tax districts in order to assist citizens to receive consistent service capability throughout the county, improve regionalized service delivery, manage costs and long term insurance rates.
- 13-18 A fire commission should be established to replace the current Fire Services Advisory Board. Suggested representation on the new commission, whose primary role is financial management of the fire service should include:
- Fire Marshal (chair)
  - County Elected Official
  - Director of Public Safety
  - Two members of Fire Chiefs Association
  - Four members – civilian non-fire agency affiliated, one from each of four “quadrants” of county, with term limits of three years, maximum two terms.
- 13-19 As part of the contract for provision of fire services between the county and the local service agency, the contract should be updated periodically (every five years or upon required change need) and a dissolution clause should be included in each agency's by-laws and a copy of said by-laws should be kept on file with the contract.



- 13-20 A standardized, consistent approach to paying firefighters compensated with county funds should be developed to include a salary and benefit component.
- 13-21 Group purchasing should be implemented for reduced purchase costs, enhanced interoperability and standardization.
- 13-22 Locally, in each agency, develop a recruitment and retention plan.
- 13-23 Standardized data for inclusion in personnel files should be established.
- 13-24 Due to the new training facility, each fire department should contact the NCOSFM for re-evaluation of the NC-DOI(ISO) recommendations for Training and in concert with the Moore County Fire Chief's Association, determine the potential to receive full NC-DOI(ISO) credit and enhance the administrative aspects for class and program operations.
- 13-25 Using identified gaps in current performance, develop a comprehensive approach to enhancing operations using identified operational expectations established by NFPA Standards 1710/1720. Develop actions locally to enhance local agency performance and interoperability.
- 13-26 Robbins Rescue should complete the requirements for serving as a heavy-rescue agency within 1 year (by 12/31/13) or services and county equipment should be transitioned to an agency that will commit to the provision of these services. (See Recommendation 13-04)
- 13-27 Establish and implement a county-wide strategic guideline for operations.
- 13-28 Continue development and implementation of county-wide Standard Operating Procedure/Guidelines using Moore County procedures/guidelines as the basic data/model. Develop a prioritization for development and revision, using the information provided in this section as a guideline. It is suggested that a team be established with no less than five members from county fire departments to develop these SOP/SOGs. As a start to this process, the study team is providing under separate cover, three suggested documents to be modified as appropriate for use in Moore County. These include a:
- Strategic Guideline
  - Incident Command Guideline
  - Water Shuttle Guideline
- 13-29 All apparatus operators should be required to complete a vehicle rollover prevention training program. A copy of such a program is being provided to each agency that took part in this project.
- 13-30 To standardize deployment to properties in Moore County, the following "box system" methodology for structure fires should be applied:
- For single family dwelling fires, a dispatch involving a complement of two engines from the two closest stations, as well as one service piece and one tanker for areas where a reliable water supply is not available



- For commercial structures, educational facility (non-residence), non-habitation, three engines and one ladder/service from the four closest stations plus two tankers
- For health care, educational residence facilities, and industrial facilities four engines and two ladders/service companies from the four closest stations plus two tankers
- For automatic fire alarms, one engine and one ladder/service company from the two closest stations.
- When a water supply deficiency is identified a tanker/tanker task force should be included

The long term goal should be to intelligently identify when equipment beyond two engines is required on single family residential fires, based on hazard, structure size, and level of internal protection.

- 13-31 Automatic/Mutual Aid agreements have not been signed for over ten years. They should be revisited and re-signed in 2013 on a five-year cycle thereafter.
- 13-32 Billing by agencies for medical transport is currently being conducted. The Office of Inspector General should be contacted for a ruling on whether or not this is permitted if the agency receives tax dollars to provide this service. The determination letter should be provided to the Moore County Public Safety Department as documentation for the ability to this, and if ruled not able to bill, the process should be discontinued immediately.
- 13-33 The County staff has been proactive in establishing and enhancing a Special Operations Team to respond to advanced level incidents. They should continue to pursue this capability by expanding the partnerships with local agencies to groom new members and train them to the required capabilities of the team.
- 13-34 Standard Operating Guidelines should be developed for Technical Rescue Operations that serve as the basis for interagency operational training and performance.
- 13-35 Revision of the fire code (Chapter #5) when dealing with access, water supply and structural design should be strictly enforced when encountered.

The following chart is provided for consideration as a starting point for long term transition. While all actions must be determined locally, the following chart indicates that some agencies may be absorbed in future annexations and it is imperative that discussions begin with all agencies involved so that a smooth transition takes place to insure adequate fire service is maintained throughout this process. Based on future growth or annexations, a time line needs to be developed for affected departments. It is critical that the affected departments are involved with this process at the onset of the planning.

The terminology “define/re-define delivery service appreciation” is intended to encourage the organization leadership to revisit what it does, how it does it, and what it does it with. Can reductions be made, what is needed; in planning for the future.

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Aberdeen Fire & Rescue – Station 41	Traditional combination fire department with growing service demand, based on EMS and MVA demands	<p>Define/Refine delivery system expectation</p> <p>Determine funding, staffing and equipment demand, evaluate and implement</p> <p>Consider merger with Crestline Volunteer Fire Department based upon Aberdeen city annexation and service delivery capability</p>	Based on city annexation activity, plan for merger with Crestline Volunteer Fire Department

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Carthage Fire & Rescue – Station 31	Traditional combination fire department with growing service demand, based on EMS and MVA demands	Support joint fire/EMS new station with Highfalls Fire Department and County EMS	Complete facilities/service expansion with County EMS and Highfalls Fire Department

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Cypress Point Fire & Rescue – Stations 21, 22 & 24	Traditional combination fire department with growing service district with increasing demand for service and facilities	<p>Consider following actions:</p> <ul style="list-style-type: none"> <li>Integrate Crains Creek into Cypress Point Fire Rescue</li> <li>Make suggested district changes to enhance ISO rating</li> <li>Plan additional station for fire district</li> </ul>	<p>Manage agency growth in calls and staffing completing:</p> <ul style="list-style-type: none"> <li>Merger of Crains Creek into Cypress Point Fire Rescue</li> <li>District changes for ISO rating improvement</li> <li>Construction of additional station</li> </ul>

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Crains Creek Volunteer Fire Department – Station 23	Traditional volunteer fire department with limited activity	Merge into Cypress Point Fire Rescue, maintaining station  Make suggested changes to fire district for ISO rating improvement	Complete district changes as suggested and be operating as station in the Cypress Point Fire Rescue System

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Crestline Volunteer Fire Department – Station 72	Traditional combination fire department with limited activity	Work with Aberdeen Fire Rescue to consolidate assets and response protocols into Aberdeen Fire Rescue	Merge with Aberdeen Fire & Rescue

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Eagle Springs Volunteer Fire Department	Traditional volunteer fire department with limited service demand based primarily on EMS and MVA	Work with Seven Lakes Fire Rescue to consolidate into single agency	Complete consolidation with Seven Lakes Fire Rescue and possibly West End Fire Rescue

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Eastwood Volunteer Fire Department – Station 52	Traditional combination fire department with slight growth in EMS/MVA calls	Define/redefine delivery system expectation and monitor funding, staffing and equipment demand evaluate and make change plans	Without growth in the district, can be managed as a volunteer agency with automatic/mutual aid from neighboring communities

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Highfalls Fire & Rescue – Station 12	Traditional combination fire department with growing service demand based on EMS and MVA calls	<p>Define/redefine delivery system expectation and monitor funding, staffing and equipment demand evaluate and make change plans</p> <p>Develop facilities upgrade plan</p> <p>Support joint fire/EMS new station with Carthage Fire Department and County EMS</p>	Complete facilities upgrade and service expansion with Carthage Fire Department and County EMS

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Pinebluff Fire Department – Station 71	Traditional volunteer fire department with growing service demand based on EMS and MVA calls	<p>Define/redefine delivery system expectation and monitor funding, staffing and equipment demand evaluate and make change plans</p> <p>Develop facilities upgrade plan</p>	<p>Without growth in the district, can be managed as a volunteer agency with automatic/Mutual aid from neighboring communities</p> <p>Complete facilities upgrade plan</p>

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Pinehurst Fire Department – Stations 91 & 92	Career department with growing service demand for emergency calls	Monitor and redefine delivery system expectation, evaluating funding, staffing and equipment demand, making changes as needed	Continue to match service delivery model to community growth

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Robbins Fire Department – Station 11	Traditional combination fire department with limited activity	Work with Robbins Rescue Squad to consolidate assets and response protocol	Merge with Robbins Rescue Squad

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Robbins Rescue Squad – Station 10	Traditional EMS department with limited activity	Work with Robbins Fire Department to consolidate assets and response protocol  Complete rescue certification process	Merge with Robbins Fire Department

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Seven Lakes EMS – Station 69	Traditional combination EMS department with limited service demand	Work with Seven Lakes Fire Rescue to consolidate into single agency	Complete consolidation with Seven Lakes Fire Rescue and possibly West End Fire Rescue

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Seven Lakes Fire Rescue – Station 63	Traditional combination fire department with limited service demand based primarily on EMS and MVA demands	Work with Seven Lakes EMS and Eagle Springs Fire Department to consolidate into a single agency	Complete consolidation with Seven Lakes EMS, Eagle Springs Fire and possibly West End Fire Rescue

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Southern Pines Fire & Rescue Department – Station 81	Combination fire department with growing service demand	Begin second station planning and service district adjustment	Slight district modification with Cypress Point and second station completion

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
West End Fire & Rescue – Station 61	Traditional combination fire department with limited service demand based primarily on EMS and MVA demands	Work with Seven Lakes Fire Rescue and consider consolidating into a single agency	Possible consolidation with Seven Lakes Fire Rescue, Seven Lakes EMS, and Eagle Springs Fire

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Westmoore Volunteer Fire Department – Station 14	Traditional volunteer fire department with slight growth in service demand	Status Quo	Status Quo

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Whispering Pines Fire Department – Station 51	Traditional combination fire department with slight growth in service demand	Status Quo	Status Quo

-END OF EXECUTIVE SUMMARY-

## **Signals of Change**<sup>3</sup>

As noted earlier, the volunteer fire service is changing. Recent studies by the International Association of Fire Chiefs – Volunteer/Combination Officer Section have validated reasons for these changes and what can and should be done to manage the future changes impacting on the volunteer fire service. Given the extent of these changes and at times the lack of awareness or even unwillingness to accept these external forces on the volunteer system, we thought it would be appropriate to begin this report with “Signals of Change”.

“Signals of Change” presents an interesting look at the changing system of volunteer emergency services. It is excerpted from the document “Lighting the Path of Evolution, The Red Ribbon Report, Leading the Transition in Volunteer and Combination Fire Departments”, a 2005 publication of the International Association of Fire Chiefs – Volunteer/Combination Officer Section.

### **Indicators for change**

A natural evolution for a volunteer department is the growth in services and added responsibilities as the demographics of the community change. When the system develops problems, people generally know about them long before they are willing to admit that they need serious attention. For fire department managers and local government leaders, it is critical that they recognize the signs of problems ahead and prepare for change before it is forced on them by external circumstances. It is helpful when they recognize these pointers to change:

Community Growth. Emergency services are directly impacted by community growth—more people, more businesses, more emergencies. The larger a community, the higher level of service people expect. In many areas people moving to “suburbs” assume wrongly that emergency services are delivered in the same way they are provided in the more established cities and towns. A history of community growth and projected increases in demand can help managers forecast and plan for changes in the delivery of emergency services. In some cases, population growth projections might even help a department determine to limit its services based on available staffing.

Community Aging. A fire department’s ability to recruit new members in part depends on the supply of new, younger people who can be tapped for service. A community’s age profile, can be an indicator of problems ahead. The age factor in your community is revealed by data showing the age of those moving in and moving out. If the younger people are moving away, or if schools are showing or expecting declining enrollment, the fire department may have a difficult time maintaining appropriate levels of service in the future.

Missed Calls. When an emergency call goes unanswered—a “scratch” on the East Coast or in other communities a “did not respond”—the fire department has a serious problem, not just

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<sup>3</sup> International Association of Fire Chiefs – Volunteer/Combination Officer Section, “Lighting the Path of Evolution, The Red Ribbon Report, Leading the Transition in Volunteer and Combination Fire Departments”, IAFC-VCOS, Fairfax, VA, 2005, Pages 3-6.

because life and property are at stake, but also because it is a failure highly visible to the public. Equally serious is a department's over-reliance on mutual aid for coverage and the lack of adequate personnel to handle subsequent calls when primary units are on an assignment

*Extended Response Times.* When units regularly fail to get out of the fire station in a timely manner because of inadequate staffing resources, the community is endangered and fire department managers have a reliability problem. Response time is a critical factor or any fire department determined to provide appropriate service to the public. It is especially critical for medical calls when the first-due company fails to respond for whatever reason and an EMS unit responds but fails to meet the response-time standard, a common occurrence even when mutual aid is not involved.

*Reduced Staffing.* Units responding with fewer than the required number of people needed to perform that unit's functions pose a serious problem for the safety of citizens and the responders. This is another indicator of reduced service capability.

All of these situations indicate an inconsistency in a department's ability to provide necessary service, though not all are necessarily caused by a shortage of volunteer members. Staffing deficits can be related to other factors, such as changes in local business and industry policies regarding employees leaving the workplace, the number of volunteers who are employed outside their response areas, a lack of understanding on the part of new corporate managers of the community's needs, a tight labor market driven by rapid community growth, or even members' apathy. Where workforce restrictions are at play in the community, they typically lead to daytime response shortages and a significant challenge for the department.

*Other Considerations.* While employment issues tend to be the major factor in volunteer staffing shortages, other factors also contribute. Decreased interest among members who fail to participate could be the result of unreasonable community expectations, some problem with the fire department's internal requirements, or other organizational issues, such as:

- *Responsibilities outpace capabilities.* Mandated and selected responsibilities and response commitments exceed the department's capability to manage outcomes properly. Mandated responsibilities may have their basis in state statutes or local resolutions, proclamations and ordinances. Selected responsibilities are response categories that result from self-imposed obligations to provide a service.
- *Inability to raise funds.* Growth in the department as it faces new demands outpaces the volunteers' ability to raise capital and operational funds.
- *Waning political support.* A once-supportive political climate begins to falter and less emphasis is placed on the volunteer-staffed fire company. This becomes noticeable when apparatus is not replaced, new purchases are postponed, or local government wants the volunteer company to operate less expensively. The volunteer-staffed fire company needs to be a vital, supportive and healthy part of the local governmental infrastructure.
- *Internal conflict.* A department has internal struggles over its mission in the community and that conflict involves the preservation of the system as a fraternal organization rather than a service-delivery system.



- *Officers filling lower operational positions.* Staffing shortages that result in the fire chief driving the fire truck or fulfilling the responsibilities of other line firefighters is another sign of a serious staffing problem.
- *Mission creep.* When first-responder programs that once managed to provide essential services and also extra staffing for critical events and rescues become subject to all kinds of other assignments, or to policies that dictate that fire units respond every time an ambulance is dispatched, chronic staffing shortages can be a problem.
- *Controversy.* When internal controversy becomes the focal point and public image of the department, its effectiveness is impaired. Controversy can be inflamed by a poorly managed emergency, an event that exceeds the capabilities of the volunteers, or public criticism that home response is no longer adequate for the number of emergency calls handled by the department. The problems are exacerbated when the volunteers are unable to reorganize and meet the increased demands, or when the news media begins to publicly question the effectiveness of the service. Few volunteers join the department to fail or be exposed to a community philosophy that “they tried hard, but they are just volunteers.”
- *Too many jobs, too little time.* Another indicator: The department cannot provide fire prevention, public education or inspection responsibilities because of training and response demands occupy the time volunteers have to commit.
- *Kingdoms come first.* Some jurisdictions consider their response areas their “kingdoms.” Boundary disputes can occur when department leaders fail to understand that the public does not care what color or name is on the fire truck. The “kingdom” attitude also leads to contentious working environments with neighboring agencies.
- *Lack of budget support.* Failure by elected officials to approve budgets that include capital expenditures for the department is an ominous sign.
- *Missed deadlines.* When critical administrative deadlines, such as daily response reports, training records, and legally required documentation are not completed or budget deadlines are not met, the department’s effectiveness is compromised.
- *Catastrophic losses.* Catastrophic events, such as the loss of a firefighter or a civilian fatality, focus great attention on the department, and perhaps its problems and deficits, which can discourage members.
- *Volunteers priced out of the community.* In many communities the price of homes and property taxes makes it difficult for the children of current volunteers or others who have time to volunteer to live in the community, thus reducing the pool of potential members.
- *Demographic Changes.* Shifts in the community that drive decisions by current members to purchase homes outside the fire district are a detriment to member retention.

### **When the time for change has come**

Once a department recognizes there is a need for change, it must examine carefully both the organization and the options available to it. It is essential that all members of the organization identify the department’s mission and core values. Whether in the end the change is a revitalized

volunteer organization or a move to some type of paid or part-paid organization, a careful articulation of core values is critical to the success of the organization. Those core values must be incorporated and reinforced as employee strategies in new career positions and the core values must be carried throughout the evolution process. If the members expect the organization to be a mirror of what it once was, everyone must believe in and apply its core values. If you expect to maintain big city services with small town pride, the organization must maintain the focus on their core values and reinforce those values at every opportunity.

Once it is clear that change is necessary to preserve the department's ability to engage in its core mission, creating a paid staff is not necessarily the first option to consider. Having the answers to a number of key questions may help resolve a department's staffing issues.

*Does the department have the right leadership?* An initial examination of problems should always include a review of the fire department's leadership. The lack of dynamic, adequately prepared leaders has long been identified as a significant issue for the volunteer fire service. Poor leadership has a significant impact on the retention rate of volunteers, on a department's desire and ability to meet new levels of service demand, and on the quality of the service provided.

*Does the department offer benefits and incentives?* Benefits are safeguards provided by the community or the department to protect firefighters and their families against unexpected financial strain should the firefighter be injured, disabled or killed while on the job. As demands for service increase, so do the chances that firefighters will be injured or worse at the emergency scene. Departments need to provide protection—such as insurance and retirement or wage supplement plans—to ensure that the health, welfare and financial stability of firefighters and their families are protected. Such benefits are essential to assure that members are treated as valuable assets.

*Incentives* can provide motivation for members to improve personal performance and participation. These are defined by personal or team recognition programs or awards. Young people today, the future lifblood of all fire departments, are interested in immediate feedback and that includes benefits and incentives. It is more cost-effective to pay for benefits than it is to pay people. It is imperative that the community be involved in determining the level of support for volunteer or part-time firefighters. How willingly the community provides benefits for them now may help department leaders gauge its willingness to sustain a combination system, if one is needed.

*Are department membership standards appropriate?* Fire department leaders should review membership standards to ensure that they are appropriate for the services provided. Do you need to increase requirements to ensure that volunteers have adequate skills to deal with the dominant types of calls to which the department responds? Does the department really need a requirement that all members have the expertise and the responsibility to respond to all types of calls?

*Can you use diversification strategies?* It is critical for department leaders to understand that not everyone is equal in skills or abilities. Diversification strategies—essentially, not everyone in the department has to be proficient in all the jobs in the department—can be helpful in attracting new members. Diversification strategies are fairly simple. Recruit subject-matter experts for the

different disciplines within the department. You can take advantage of that to attract new members and take pressure off of a small group of dedicated responders. For example, you might recruit from a number of professions within the community that deal with hazardous materials. Attract and train those individuals as volunteers and use them when chemical emergencies are dispatched. By implementing diversification strategies, you may actually improve your volunteer base by reducing the demand on all your members and enhancing their subject-matter expertise.

*Trim the non-essentials.* Review your organization's mission and values and identify the essential functions and services it is required to deliver. A review can, in some cases, lead to reducing or eliminating non-essential services. Remember, you can't be all things to all people.

These "Signals of Change" presented by the International Association of Fire Chief's Volunteer-Combination Officers Section, provide a sound basis for questions and concerns as one evaluates its emergency service delivery system. This information is incorporated into the assessment process for Moore County.

## **Assumptions and Current Trends**

Any conceptual project begins with a set of assumptions and analysis of current trends within the industry. This project is no exception. There were four (4) basic assumptions established prior to the assessment and development of a report for Moore County. The assumptions included:

- The desire is to maintain a volunteer/combination system to deliver cost effective fire and rescue services as long as possible.
- There is a possible need for consolidation, merger and other changes that should be evaluated.
- Nationally recognized standards would be used as the baselines for any recommended changes in operations.
- Programs, best practices policies, guidelines, etc. recommended for use, should be recognized as successful programs, best practices policies, guidelines, etc. in other volunteer fire and rescue service agencies.

In addition, time was taken to compare the individual departments within the county to fire services in similar sized communities around the United States. A national study was conducted by the National Fire Protection Association entitled “U.S. Fire Department Profile through 2011”, printed in 2012, measured service provision in several key areas. These are compared in the following chart.<sup>4</sup>

### **Structure of Fire Departments**

<b>Type Department</b>	<b>0-10,000 population</b>	<b>10,001 to 24,999 population</b>	<b>25,000 to 49,999 population</b>	<b>Moore County</b>
<b>Total Departments</b>	24,362	3,570	1,310	16
<b>All career</b>	7.9%	22.4%	44.7%	1
<b>Mostly career</b>	9.6%	24.3%	27.2%	5
<b>Mostly volunteer</b>	69.3%	37.2%	6.9%	10
<b>All Volunteer</b>	75.0%	21.3%	16.1%	0

While we were not able to determine the age range of members of the department, each agency can compare themselves to national data as follows:

### **Percent Firefighters Age per Population Bracket**

<b>Age Range</b>	<b>0-10,000 Population</b>	<b>10,001 to 24,999 population</b>	<b>25,000 to 49,999 population</b>	<b>50,000+ Population</b>
<b>Under 30</b>	27.4%	26.9%	22.5%	17.7%
<b>30-39</b>	26.5%	28.3%	31.1%	31.4%
<b>40-49</b>	23.4%	25.6%	29.7%	31.7%
<b>50+</b>	22.6%	19.2%	16.7%	19.2%

### **Career Firefighters per 100 People Nationwide**

<b>Population Range</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>
<b>25,000 – 49,999</b>	0	1.16	5.03
<b>10,000 – 24,999</b>	0	1.05	6.04

<sup>4</sup> Michael J. Karter, “U.S. Fire Department Profile Through 2007”, NFPA, Quincy, MA, 2008, 26 pages.

**COMPARISON OF MOORE COUNTY FIRE DEPARTMENTS TO NATIONAL AVERAGES**

<i>Nationwide Area of Comparison UP TO 5,000 POPULATION</i>	<i>National Result*</i>	<i>Crains Creek VFD</i>	<i>Crestline VFD</i>	<i>Eagle Springs VFD</i>	<i>Eastwood VFD</i>	<i>High Falls VFD</i>	<i>Pinebluff VFD</i>	<i>Seven Lakes Fire Rescue</i>	<i>West End Fire Rescue</i>	<i>Westmoore FD</i>	<i>Whispering Pines VFD</i>
Percentage of communities under 5,000 population with all volunteer fire services	6.37 volunteer per 1,000	4.1 volunteer per 1,000	17.5 volunteer per 1,000	9.65 volunteer per 1,000	14.8 volunteer per 1,000	14.3 volunteer per 1,000	2.7 volunteer per 1,000	7.4 volunteer per 1,000	6.3 volunteer per 1,000	8.9 volunteer per 1,000	7.9 volunteer per 1,000
Number of stations per 1,000 population	.346	.588	1.250	.344	.435	.476	.222	.286	.552	.320	.256
Number of pumpers per 1,000 population	.542	1.176	3.750	4.379	.870	.952	.667	.838	1.176	.740	.512
Number of aerial trucks per 1,000 population	.028	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Number of other emergency vehicles per 1,000 population	.628	3.529	5.000	4.379	1.740	1.905	.889	.839	2.571	1.111	1.539
% Departments in communities under 5,000 population with 3-4 Pumpers	2 = 28.6% 3 = 29.5% 4-5 = 9.8%	2	3	4	2	2	3	3	4	2	2
% Departments in communities under 5,000 population with Aerials	1 = 9.8%	0	0	0	0	0	0	0	0	0	0
% Departments in communities under 5,000 population with fire stations	1 = 78.4% 2 = 15.9%	1	1	1	1	1	1	1	2	1	1
% Departments in communities under 5,000 population with other vehicles	2 = 28.6% 3-4 = 29.5% 5+ = 9.3%	6	4	4	4	4	4	3	9	3	6
% Departments in communities under 5,000 population where fire department provides EMS Service.	NO EMS –42% BLS – 46% ALS – 12%	BLS	BLS	BLS	BLS	BLS	BLS	BLS	BLS	BLS	BLS

<i>Nationwide Area of Comparison 5,000 TO 10,000 POPULATION</i>	<i>National Result*</i>	<i>Aberdeen Fire Rescue</i>	<i>Carthage Fire Rescue</i>	<i>Cypress Pointe FD</i>	<i>Robbins Fire</i>
Percentage of communities of 5,000 to 10,000 population with all volunteer fire services	3.00 volunteer per 1,000	4.6 career per 1,000	5.2 volunteer per 1,000	3.5 volunteer per 1,000	5.1 volunteer per 1,000
Number of stations per 1,000 population	.198	.143	.149	.323	.175
Number of pumpers per 1,000 population	.295	.429	.596	.538	.700
Number of aerial trucks per 1,000 population	.036	.143	.000	.000	.000
Number of other emergency vehicles per 1,000 population	.320	1.430	1.343	1.613	.526
% Departments in communities of 5,000 to 10,000 population with 3-4 Pumpers	2 = 44.3% 3-4 = 36.3% 5+ = 3.5%	3	4	5	4
% Departments in communities of 5,000 to 10,000 population with Aerials	1 = 25.4%	1	0	0	0
% Departments in communities of 5,000 to 10,000 population with fire stations	1 = 69.4% 2 = 20.2% 3 = 6.6%	1	1	3	1
% Departments in communities of 5,000 to 10,000 population with other vehicles	2 = 24.5% 3-4 = 29.5% 5 = 9.8%	10	9	15	3
% Departments in communities of 5,000 to 10,000 population where fire department provides EMS	NO = 39% BLS = 43% ALS = 18%	BLS	BLS	BLS	BLS

<i><b>Nationwide Area of Comparison 10,000 TO 24,999 POPULATION</b></i>	<i><b>National Result*</b></i>	<i><b>Pinehurst FD</b></i>	<i><b>Southern Pine Fire Rescue</b></i>
Percentage of communities between 10,000 and 24,999 population with all volunteer fire services	0.69 volunteer per 1,000	0 volunteer per 1,000	0.5 volunteer per 1,000
Number of stations per 1,000 population	.128	.220	.068
Number of pumpers per 1,000 population	.134	.240	.204
Number of aerial trucks per 1,000 population	.033	.000	.068
Number of other emergency vehicles per 1,000 population	.136	.539	.676
% Departments in communities between 10,000 and 24,999 population with Pumpers	3-4 = 48.7%	4	3
% Departments in communities between 10,000 and 24,999 population with Aerials	1 Aerial 46.6%	0	1
% Departments in communities between 10,000 and 24,999 population with Stations	1 = 45.0% 2 = 30.8%	2	1
% Departments in communities between 10,000 and 24,999 with other emergency vehicles	2 = 19.4% 3-4 = 21.1% 5+ = 11.4	9	10
% Departments between 10,000 and 24,999 population with other vehicles	NO = 28% BLS = 41% ALS = 31%	BLS	BLS

## **Management & Governance**

The Moore County Fire Services system is comprised of 16 volunteer/combination Fire Departments, providing fire, rescue, emergency medical, hazardous material, and hazard management services to the towns and unincorporated areas within the boundaries of Moore County, North Carolina.

The management and governance of each volunteer/combination fire department is left to each agency and is found to vary based upon the era of incorporation/chartering as a fire department, and the operational/business needs of each agency. In some cases they are further managed by a town form of government, in other cases they remain independent agencies. They range from what could be considered small/rural fire companies to suburban combination/career fire department business models.

As noted earlier, the fire departments and their staff do their best to provide emergency response services to the community. The lack of repetitive significant major loss events and very few service complaints are a tribute to the performance of the organization as a whole.

Other than existing contracts, there was no requirement identified that the county, as a public entity, is required to provide for fire and emergency medical services in North Carolina. Contracts between the county and each fire department thus serve as the basis for any provision of service. A discussion of the contract in use today is provided under the mutual aid section of this report.

There is no established mission or vision statement for Moore County Fire Services. This makes it difficult for the county's 16 fire departments to understand and work toward what is services are expected from them, and for the public to understand what services are available to them, for the funding they provide.

A draft of a proposed mission statement and vision statement is provided as follows:

### **VISION STATEMENT** ***(proposed draft for review, agreement and revision)***

Moore County provides a state of the art fire and rescue service to the people of the County through the services of dedicated fire and EMS agencies with superior leadership and technology that fosters a climate of openness, trust, and diversity that recognizes the achievement of people working together.



### **MISSION STATEMENT**

*(proposed draft for review, agreement, and revision)*

**The mission of Fire and Rescue Services in Moore County is to minimize the loss of life and property through effective and efficient response capability to natural and man-made emergencies through planning, prevention through public education, pre-emergency assessment, and the effective use of human resources, technology, and equipment when needed.”**

There were a mix of mission/vision statements being used at the local agency level. Some were written and posted; some were simply the department “motto”. There was recognition that mission statements provide a message from leadership on the expected performance today and in the future for the organization. Each agency should continue to pursue establishment of a mission/vision, consistent with that for County-wide fire and rescue services. One good example is:

*It is the mission of the ABC Volunteer Rescue and Fire Department to dedicate itself to protection of the lives and property of the citizens of the our community from the adverse effects of fire, medical emergencies, or the exposure to dangerous conditions caused by man or nature. We will accomplish our mission through continuous public education, emergency medical service, rescue service, fire suppression, and extensive training.*

Integral to these operations are defined procedures for:

- a. officer qualifications and incident command,
- b. apparatus response procedures,
- c. firefighter and officer training, and
- d. standard of cover/service delivery statement

Which are addressed in appropriate sections later in this report.

The issue of a Service Delivery is best quantified via a “Service Delivery Statement or Standard of Response Cover”. Based upon an analysis of the information and data presented to the project team and subsequently discussed with the Chief officers of the fire departments, the following Service Delivery Statement is recommended for consideration of adoption in Moore County. These are consistent with the current delivery of service to the community.

The current service delivery system can be summarized as follows:

## **FIRE/EMS SERVICE DELIVERY CHART**

Based upon a meeting of the undersigned, this summary chart identifies the primary provider of services to the community.

Fire Suppression	<b><u>ASSIGNED FD PER TERRITORY + AUTOMATIC AID</u></b>
Hazardous Materials – Awareness Level	<b><u>ASSIGNED FD PER TERRITORY</u></b>
Hazardous Materials – Operations Level	<b><u>COUNTY SOT WITH LOCAL FD AS NEEDED</u></b>
Rescue (vehicle, elevator, light entrapment)	<b><u>ASSIGNED VFD PER TERRITORY + QUADRANT RESCUE</u></b>
Confined Space Rescue	<b><u>COUNTY SOT WITH LOCAL FD</u></b>
Trench Rescue	<b><u>COUNTY SOT WITH LOCAL FD</u></b>
Technical (structural collapse) Rescue	<b><u>COUNTY SOT WITH LOCAL FD</u></b>
Water Rescue	<b><u>ASSIGNED FD PER TERRITORY</u></b>
High Angle Rescue	<b><u>COUNTY SOT WITH LOCAL FD</u></b>
Basic Life Support – EMS	<b><u>ASSIGNED FD PER TERRITORY + MOORE EMS</u></b>
Advanced Life Support – EMS	<b><u>MOORE EMS WITH LOCAL FD AS REQUESTED</u></b>

A proposed Standard of Cover for consideration follows.

**SERVICE DELIVERY STATEMENT  
STANDARD OF RESPONSE COVER**  
*(proposed draft for review, agreement, and revision)*

**Fire department response to a structure fire or rescue in Moore County will be provided by a fire department contracted with by the county, and will respond within 5 minutes of dispatch and be on scene with one piece of fire apparatus in 12 minutes, with a crew of 2 qualified members, 80 percent of the time.**

Management information is maintained at the discretion of each fire department. An overall approach to Information Management was not clear, but should include monthly reporting of incidents responded to within the coverage area, injuries and damage sustained, personnel and companies who responded, and fire inspections/plan reviews conducted. This type of data is necessary for appropriate public safety analysis and planning by the elected officials.

In general, the departments indicated training as a hallmark of their performance, individual staff development, and value to the community. The consistent record of performance would validate that the companies integrated training within their operational activities. However, based on the documentation provided and the responses to questions during site visits, it is clear that the overall approach to training and development of standard operating guidelines needs refinement to truly be effective over the long term. A suggested model for comprehensive training and resultant officer qualifications is provided as in the Personnel Section of this report. It should be used as a baseline for discussions to develop the ultimate model for use in the County. While standard operating guidelines are in place and others are being developed, an over-riding guideline for strategically operating at incidents should be developed to provide both a risk management and over-riding philosophical approach to the management of emergencies. A sample is provided as Appendix 1.

The most significant issue observed by the project team was the staffing and deployment method currently in use. The various fire departments have developed a positive working relationship to meet the needs of the communities, but remains a “fragile” deployment system due to the limited staffing and, deployment from multiple stations.

Transfer of some territory, agency consolidation, etc. all are viable considerations

As part of this process, input was requested from county citizens through the Moore County Public Information Office. That input is summarized in the Executive Summary section of this report.

## **RECOMMENDATIONS (as noted in the Executive Summary)**

- 13-01 Establish a Service Delivery Statement which indicates the types of services to be provided, the area to be covered, and the delegation of authority to perform those services. This will also serve as the basis for development and implementation of a mission statement, vision statement, and development of annual goals, objectives and funding requests. Consistent with the development of these documents is a Standard of Response Cover for use in Moore County as a method to define a service expectation the community will accept. This will also serve as a benchmark to determine when and where career staff is needed for fire-fighting services. Examples of these draft statements (Mission, Vision, and Service Delivery Statement/Standard of Cover) are provided within this report.
- 13-02 A standardized approach to incident reporting should be established with each fire department and the emergency medical service providing computerized monthly statistical information to the Fire Marshal's office for consolidation into a monthly report on fire and EMS activities within Moore County. This will enable the County to demonstrate the need for expending funds for fire and EMS provision and provide data for analysis of developing fire and EMS situations within the County. This should be part of a more comprehensive information technology policy for all facets of the Fire and EMS system. All agencies should complete data in Firehouse software to assure proper recording of incident information, trending analysis and funding distribution.
- 13-03 Each agency should complete an annual report for release to the public, and submission to the public safety office for inclusion in county wide annual report. Included should be a projected costs savings to the taxpayers, through the utilization of the National Volunteer Fire Council's "Volunteer Fire Service Cost Savings Model", available at [www.nvfc.org](http://www.nvfc.org).
- 13-04 To enhance operational efficiency, reduction of assets and related costs, improve service to the community, and work toward insurance rating improvement the following consolidations should be considered:
- Crains Creek becomes a substation of Cypress Pointe
  - Crestline becomes a substation of Aberdeen
  - Robbins Fire Department and Robbins Rescue Squad merge
  - Seven Lakes, Eagle Springs, Seven Lakes EMS and West End administratively merge into one district, but maintain all current stations.
  - Long term consideration should be given to the ultimate administrative merger of Highfalls, Westmoore and Robbins into one district (after Robbins Fire & Robbins EMS merge) but maintain all current stations.

Based upon the current and projected growth within the county, begin a three step process for long term consolidation of services to improve the long-term performance of the delivery of emergency services in the county. A hypothetical model is detailed in the report. The three step process involves a transition plan to move from "current status" to an "interim recommended status" to a "long term suggestion". These are defined in the

“Management and Governance” section of this report, and characterized/defined as follows:

- Step 1 – Current status of the department
- Step 2 – A transitional approach to management/funding/operations model to move between Step 1 and 3. Consideration must be given to assuring the operational and funding processes are defined in place before full transition occurs.
- Step 3 – Long term (estimated three to five year objective) to serve as the delivery system for that fire response area.

The following chart is provided for consideration as a starting point for long term transition. While all actions must be determined locally, the following chart indicates that some agencies may be absorbed in future annexations and it is imperative that discussions begin with all agencies involved so that a smooth transition takes place to insure adequate fire service is maintained throughout this process. Based on future growth or annexations, a time line needs to be developed for affected departments. It is critical that the affected departments are involved with this process at the onset of the planning.

The terminology “define/re-define delivery service appreciation” is intended to encourage the organization leadership to revisit what it does, how it does it, and what it does it with. Can reductions be made, what is needed; in planning for the future.

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Aberdeen Fire & Rescue – Station 41	Traditional combination fire department with growing service demand, based on EMS and MVA demands	<p>Define/Refine delivery system expectation</p> <p>Determine funding, staffing and equipment demand, evaluate and implement</p> <p>Consider merger with Crestline Volunteer Fire Department based upon Aberdeen city annexation and service delivery capability</p>	Based on city annexation activity, plan for merger with Crestline Volunteer Fire Department

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Carthage Fire & Rescue – Station 31	Traditional combination fire department with growing service demand, based on EMS and MVA demands	Support joint fire/EMS new station with Highfalls Fire Department and County EMS	Complete facilities/service expansion with County EMS and Highfalls Fire Department

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Cypress Point Fire & Rescue – Stations 21, 22 & 24	Traditional combination fire department with growing service district with increasing demand for service and facilities	<p>Consider following actions:</p> <ul style="list-style-type: none"> <li>Integrate Crains Creek into Cypress Point Fire Rescue</li> <li>Make suggested district changes to enhance ISO rating</li> <li>Plan additional station for fire district</li> </ul>	<p>Manage agency growth in calls and staffing completing:</p> <ul style="list-style-type: none"> <li>Merger of Crains Creek into Cypress Point Fire Rescue</li> <li>District changes for ISO rating improvement</li> <li>Construction of additional station</li> </ul>

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Crains Creek Volunteer Fire Department – Station 23	Traditional volunteer fire department with limited activity	Merge into Cypress Point Fire Rescue, maintaining station  Make suggested changes to fire district for ISO rating improvement	Complete district changes as suggested and be operating as station in the Cypress Point Fire Rescue System

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Crestline Volunteer Fire Department – Station 72	Traditional combination fire department with limited activity	Work with Aberdeen Fire Rescue to consolidate assets and response protocols into Aberdeen Fire Rescue	Merge with Aberdeen Fire & Rescue

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Eagle Springs Volunteer Fire Department	Traditional volunteer fire department with limited service demand based primarily on EMS and MVA	Work with Seven Lakes Fire Rescue to consolidate into single agency	Complete consolidation with Seven Lakes Fire Rescue and possibly West End Fire Rescue

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Eastwood Volunteer Fire Department – Station 52	Traditional combination fire department with slight growth in EMS/MVA calls	Define/redefine delivery system expectation and monitor funding, staffing and equipment demand evaluate and make change plans	Without growth in the district, can be managed as a volunteer agency with automatic/mutual aid from neighboring communities

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Highfalls Fire & Rescue – Station 12	Traditional combination fire department with growing service demand based on EMS and MVA calls	<p>Define/redefine delivery system expectation and monitor funding, staffing and equipment demand evaluate and make change plans</p> <p>Develop facilities upgrade plan</p> <p>Support joint fire/EMS new station with Carthage Fire Department and County EMS</p>	Complete facilities upgrade and service expansion with Carthage Fire Department and County EMS

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Pinebluff Fire Department – Station 71	Traditional volunteer fire department with growing service demand based on EMS and MVA calls	<p>Define/redefine delivery system expectation and monitor funding, staffing and equipment demand evaluate and make change plans</p> <p>Develop facilities upgrade plan</p>	<p>Without growth in the district, can be managed as a volunteer agency with automatic/Mutual aid from neighboring communities</p> <p>Complete facilities upgrade plan</p>

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Pinehurst Fire Department – Stations 91 & 92	Career department with growing service demand for emergency calls	Monitor and redefine delivery system expectation, evaluating funding, staffing and equipment demand, making changes as needed	Continue to match service delivery model to community growth



Agency	Current Situation	Interim Status	5-year Status
Robbins Fire Department – Station 11	Traditional combination fire department with limited activity	Work with Robbins Rescue Squad to consolidate assets and response protocol	Merge with Robbins Rescue Squad

Agency	Current Situation	Interim Status	5-year Status
Robbins Rescue Squad – Station 10	Traditional EMS department with limited activity	Work with Robbins Fire Department to consolidate assets and response protocol  Complete rescue certification process	Merge with Robbins Fire Department

Agency	Current Situation	Interim Status	5-year Status
Seven Lakes EMS – Station 69	Traditional combination EMS department with limited service demand	Work with Seven Lakes Fire Rescue to consolidate into single agency	Complete consolidation with Seven Lakes Fire Rescue and possibly West End Fire Rescue

Agency	Current Situation	Interim Status	5-year Status
Seven Lakes Fire Rescue – Station 63	Traditional combination fire department with limited service demand based primarily on EMS and MVA demands	Work with Seven Lakes EMS and Eagle Springs Fire to consolidate into a single agency	Complete consolidation with Seven Lakes EMS, Eagle Springs Fire and possibly West End Fire Rescue

Agency	Current Situation	Interim Status	5-year Status
Southern Pines Fire & Rescue Department – Station 81	Combination fire department with growing service demand	Begin second station planning and service district adjustment	Slight district modification with Cypress Point and second station completion

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
West End Fire & Rescue – Station 61	Traditional combination fire department with limited service demand based primarily on EMS and MVA demands	Work with Seven Lakes Fire Rescue and consider consolidating into a single agency	Possible consolidation with Seven Lakes Fire Rescue, Seven Lakes EMS and Eagle Springs Fire

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Westmoore Volunteer Fire Department – Station 14	Traditional volunteer fire department with slight growth in service demand	Status Quo	Status Quo

<b>Agency</b>	<b>Current Situation</b>	<b>Interim Status</b>	<b>5-year Status</b>
Whispering Pines Fire Department – Station 51	Traditional combination fire department with slight growth in service demand	Status Quo	Status Quo

## **North Carolina Department of Insurance** **Insurance Services Office (ISO) Ratings**

Fire departments serving rural or municipal fire districts in North Carolina whether volunteer, combination, or career (paid) must meet an initial certification standard which is referenced with an identifier of Class 9S. This classification is provided through inspection and certification by the North Carolina Department of Insurance/Office of State Fire Marshal as authorized by North Carolina General Statutes and Administrative Rules.

When a fire department serving a locally recognized fire district is certified Class 9S, property owners in that fire district who are within 5 road miles of the fire station qualify for a reduction in the insurance rates. Fire departments may be listed as Class 9E (extended) upon meeting optional criteria which will allow property owners located beyond 5 road miles but within the 6<sup>th</sup> road mile from the fire station to qualify a Class 9 rating.

Fire Departments may also seek to provide additional fire insurance rate reductions by requiring a Response Rating Survey through the Office of State Fire Marshal. This voluntary process surveys the fire department, the water supply and the emergency communication system applying the survey results to a nationally recognized grading schedule. The result is a Response Rating Classification ranging from Class 8 to Class 1 being assigned to the fire department serving the recognized and identified fire district(s).

In this process, fire departments may be assigned a split classification rating for various factors as opposed to a straight classification rating. With split classification ratings, protected properties in the recognizes fire district within 1,000 feet of a fire hydrant by which route fire hose can be laid and within 5 road miles of the fire station qualify for a lower rating. The protected properties in the fire district over 1,000 feet from a fire hydrant and within 5 road miles of the fire station qualify for the Class 9 rating, or with work, a reduced rating.

Fire departments may have a split classification rating and qualify for a Class 9E (extended rating upon meeting required criteria). The Class 9E rating will allow protected properties located beyond 5 road miles but less than 6 road miles from the fire station to qualify for a Class 9 rating only.

It is not uncommon for the same fire department to serve a municipal district (town) and a rural district (county) with a straight rating in the municipality and a split rating in the rural district mostly due to the lack of fire hydrants.

***THE RESPONSE RATING OR PUBLIC PROTECTION CLASS RATING ASSIGNED TO A FIRE INSURANCE POLICY IS THE RESPONSIBILITY OF THE INSURANCE AGENT/CARRIER AND NOT THE FIRE DEPARTMENT OR MOORE COUNTY. THE INFORMATION PROVIDED HERE IS INTENDED TO PROVIDE BACKGROUND INFORMATION ON THE FIRE PROTECTION IN THE VARIOUS FIRE DEPARTMENT RESPONSE AREAS COMPARED TO INSURANCE CRITERIA.***

Departments are currently rated by the NCOSFM criteria and NFPA 1720 as follows

Department	Size	Response Rating	Inspection Date	NFPA 1720 Status
Aberdeen F&R – Station 41 Aberdeen Rural	6	4 5/9E	11/25/2009	Suburban
Carthage F&R – Station 31 Fagansville	6	6 6/9E	10/2012	Rural
Crains Creek VFD Station 23	6	6/9E	8/23/2010	Rural
Crestline VFD Station 72	6	6/9E	8/23/2010	Rural
Cypress Pointe F&R– Station 21, 22, 24	6	7/9E	12/10/2010	Rural
Eagle Springs VFD Station 62	6	8/9E	8/23/2010	Rural
Eastwood VFD - Station 52	6	7/9E	6/9/2010	Rural
Highfalls F&R – Station 12	6	9E	6/2/10	Rural
Pinebluff FD - Station 71 Pine Forest	6	6 6/9E	8/3/2011	Rural
Robbins FD - Station 11 Elise	6	6/9S 6/9E	10/2010	Rural
Robbins Rescue Squad – Station 10	-	-	-	Rural
Seven Lakes EMS - Station 69	-	-	-	Rural
Seven Lakes VFD - Station 63	6	6/9E	8/23/10	Rural
Southern Pines F&R Dept – Sta 81 The Pines	6	4 6/9E	8/23/10	Suburban
Village of Pinehurst Stations 91, 92 Longleaf	6	4 4/9E	8/23/10	Suburban
West End F&R – Station 61 & Foxfire	6	6/9E	8/23/10	Rural
Westmoore VFD - Station 14	6	7/9E	4/2012	Rural
Whispering Pines FD - Station 51	6	6/9E	8/23/10	Rural

\* Size is mileage distance allowed from station

\*\* This is the projected NFPA Standard 1720 standard of cover rating for each

Urban = >1000 population per sq. mi.

Suburban = 500-1000 population per sq. mi.

Rural = <500 population per sq. mi.

\*\*\* The most recent NCOSFM report indicated these agencies have not signed their operational contracts with the county.

Data reflects that which was provided to the project team, January 2013

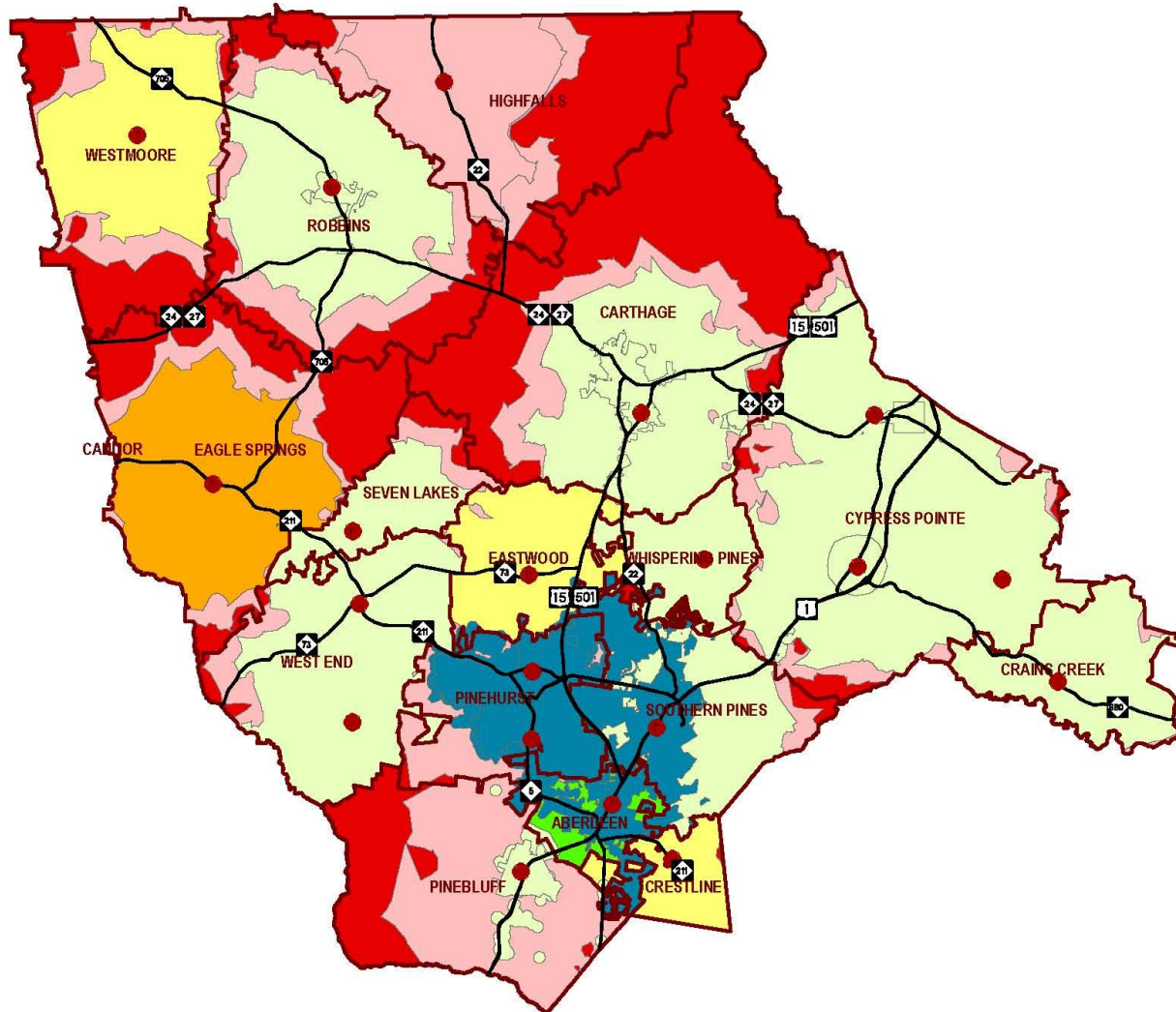
Of significant note, based on the NCOSFM reports provided to the Project Team, were the consistent recommendations made regarding water supply/fire hydrants, fire department training facilities, hydrant inspection, pre-planning, reserve pumper, and reserve aerial. Also of note were consistent deficiencies noted in listing of phone numbers, dispatcher availability, and compliance with NFPA Standard 1221 at the dispatch center. There are distinct opportunities to address these issues county-wide and improve not only the insurance rating impact, but operational capability.

A summary of related NCOSFM/DOI observations made by the Project Team is consolidated and provided in Appendix 2 of this report.

The NFPA 1720 Status noted above correlates to the following national guideline on standard of cover. While there is no mandate to use this criteria, it does serve as a hypothetical model to consider while each community or county develops its specific standard of cover

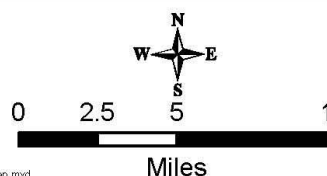
<b>Demand Zone</b>	<b>Demographics</b>	<b>Staffing &amp; Response Time</b>	<b>Percentage</b>
Special Risk	AHJ determined	AHJ determined	90%
Urban	>1000 population per square mile	15/9 people/minutes	90%
Suburban	500 to 1000 population per square mile	10/10 people/minutes	80%
Rural	<500 population per square mile	6/14 people/minutes	80%
Remote	Travel distance 8 miles	4 people	90%

## Moore County, NC Fire Districts



NOTE ISORating drive time analysis was created using the roads on January 28, 2013. Any changes to roads after this date will not be reflected.

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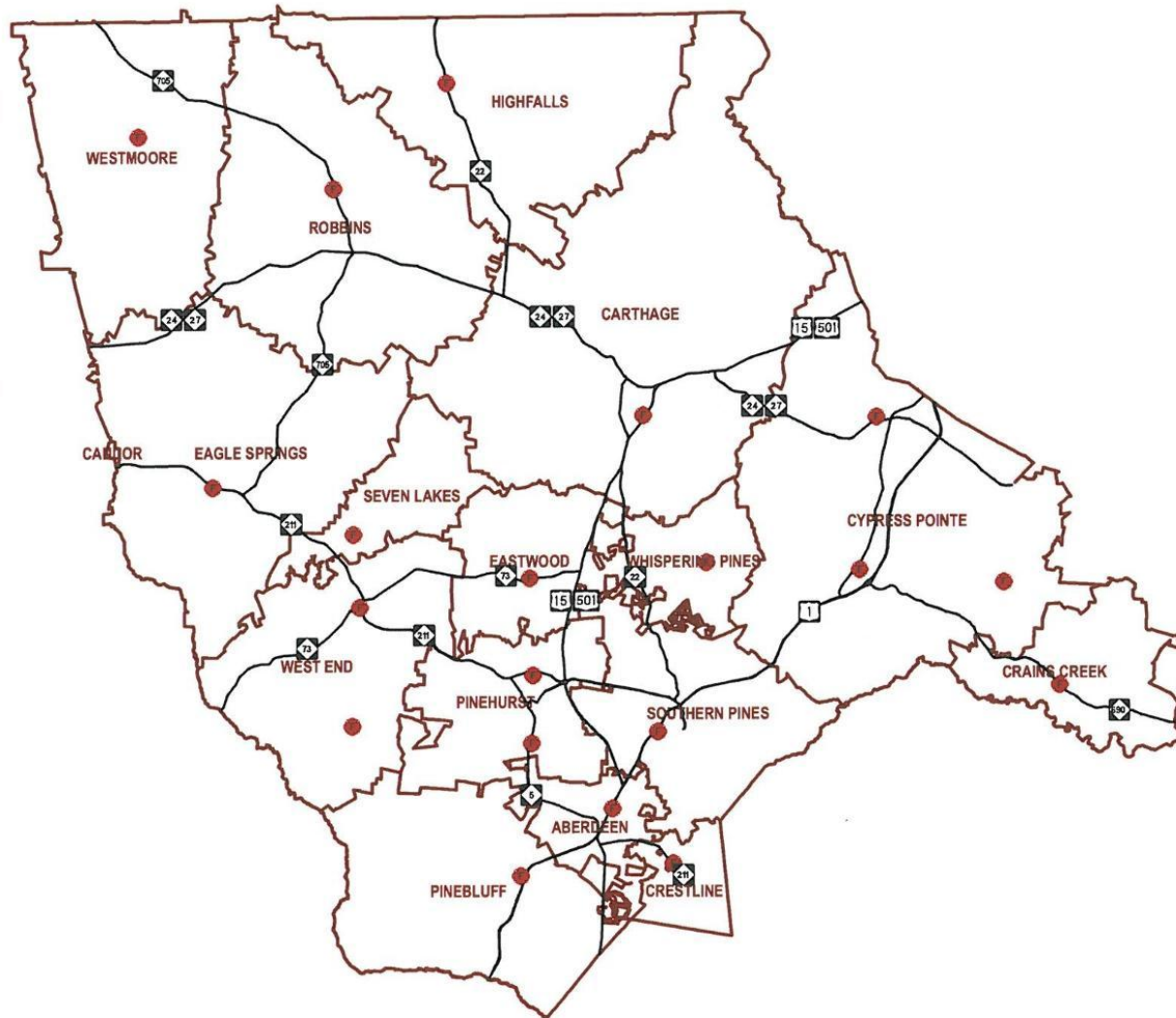


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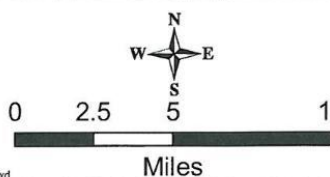




## Moore County, NC Fire Districts



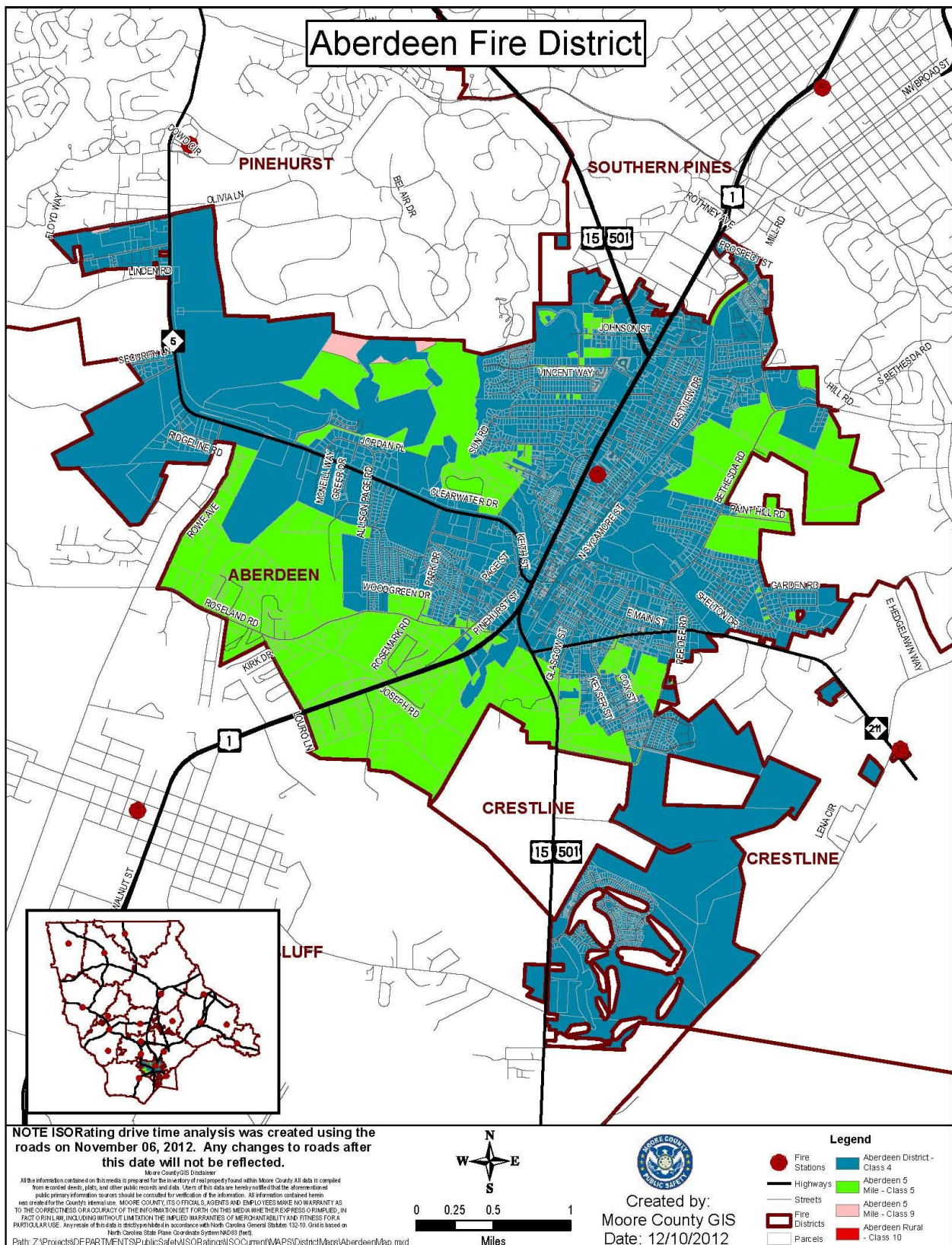
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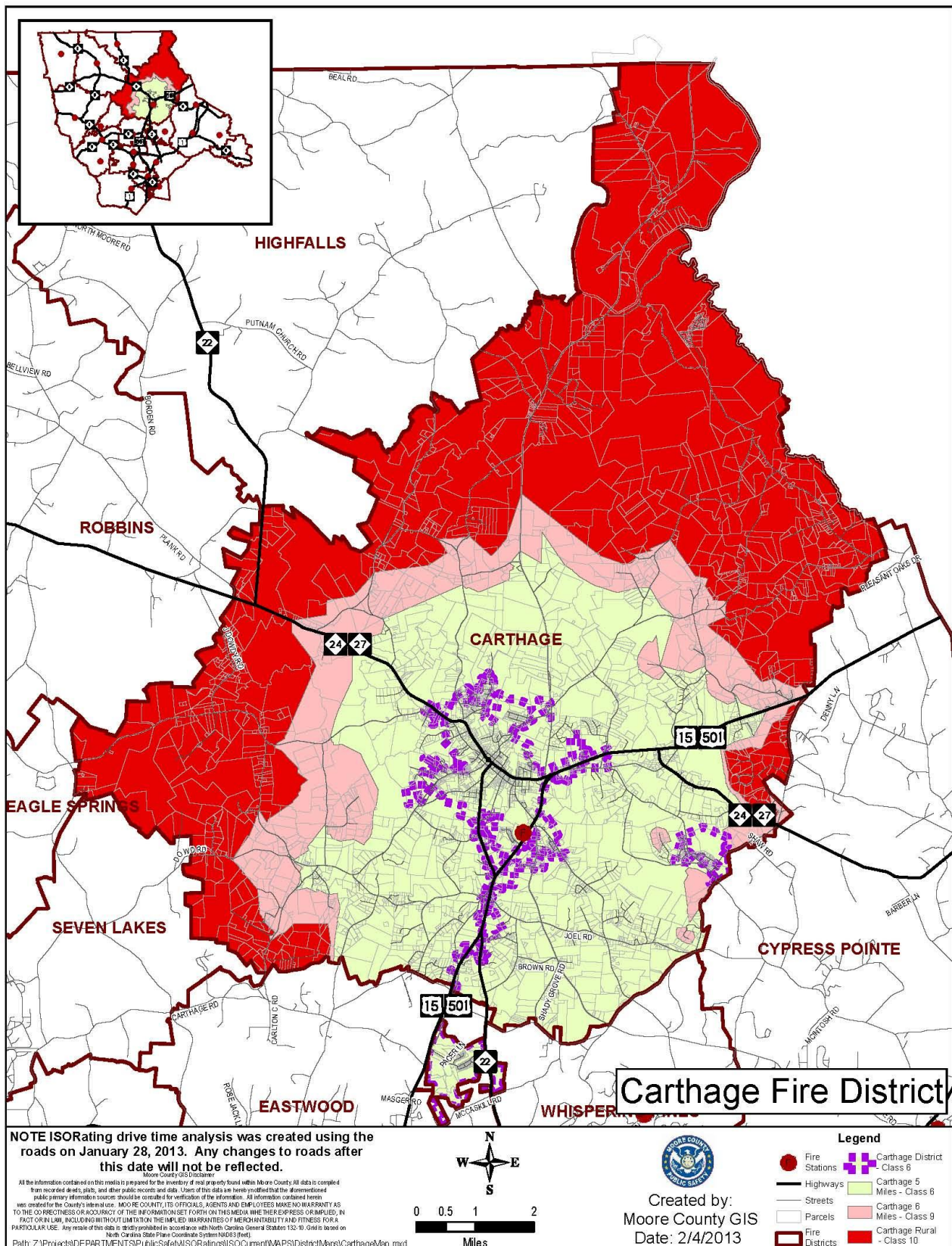
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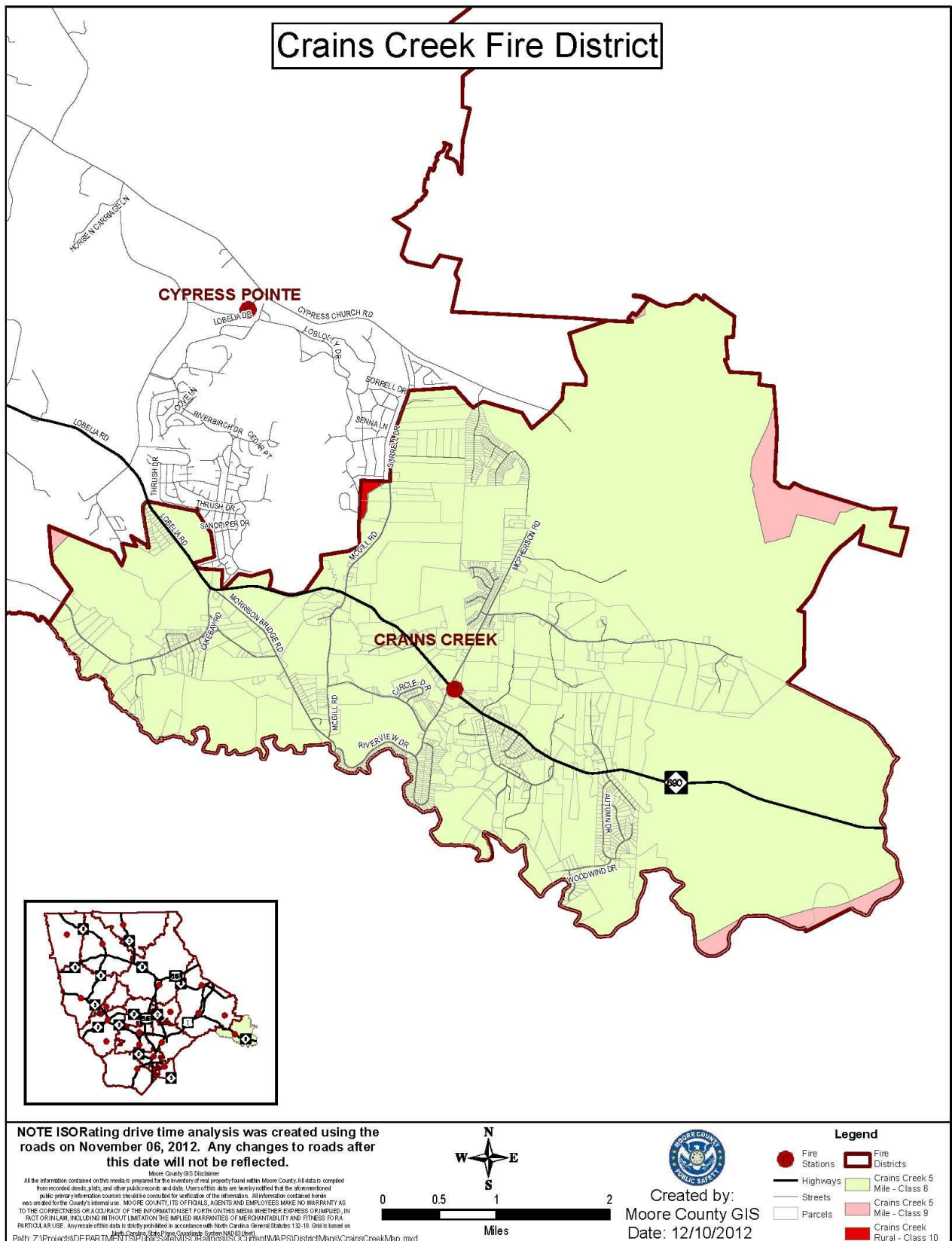
### Legend

- Fire Stations
- Highways
- Fire Districts

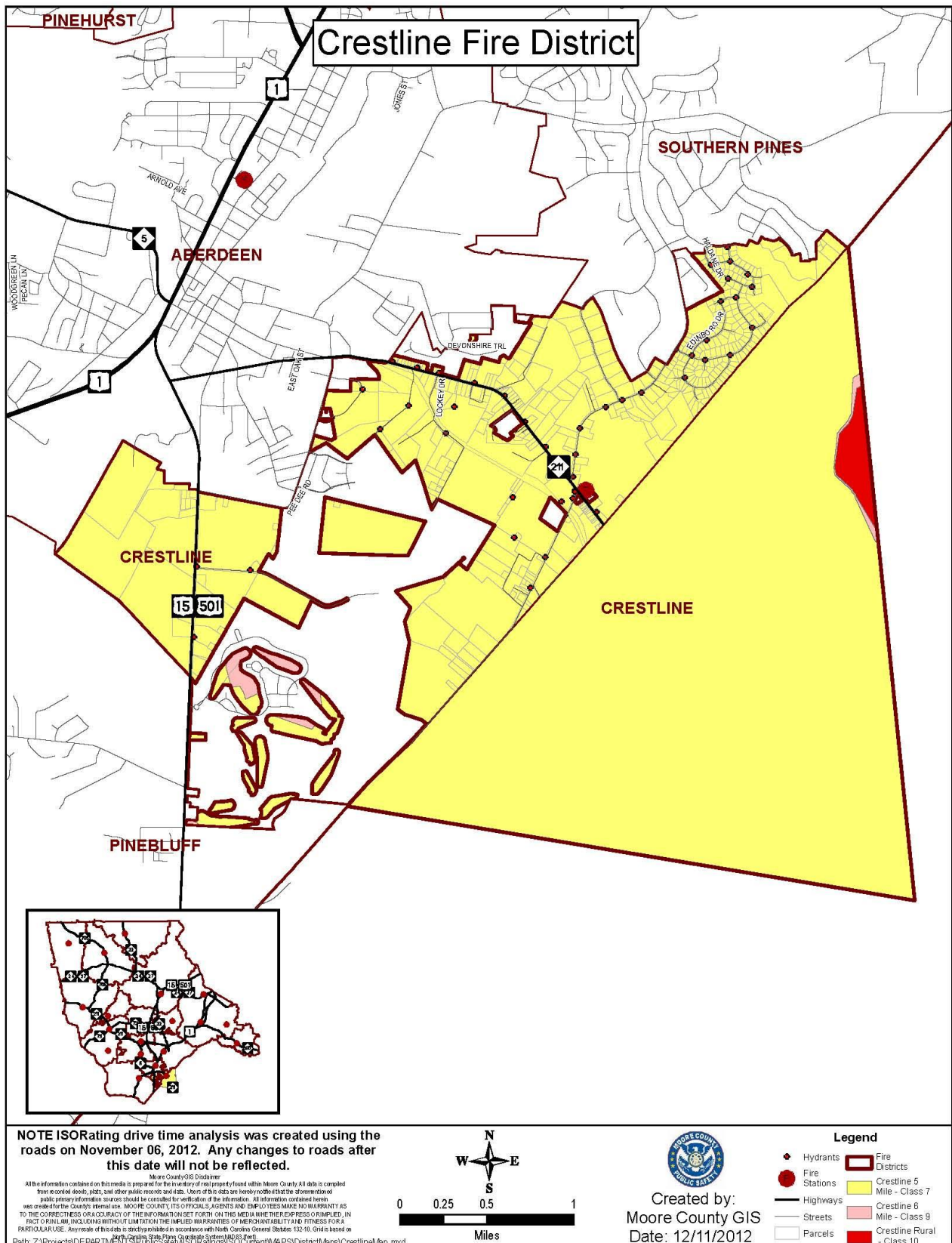


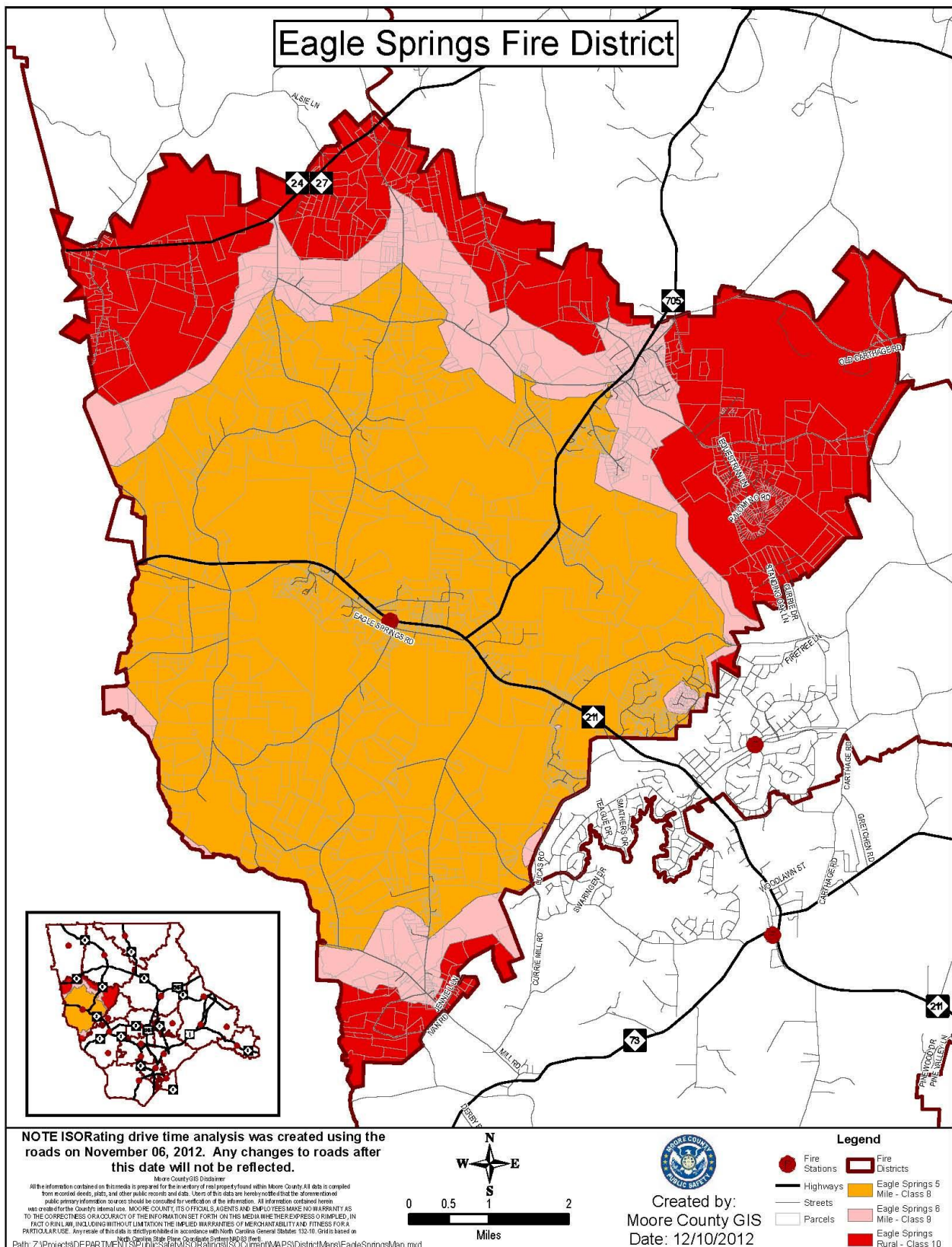




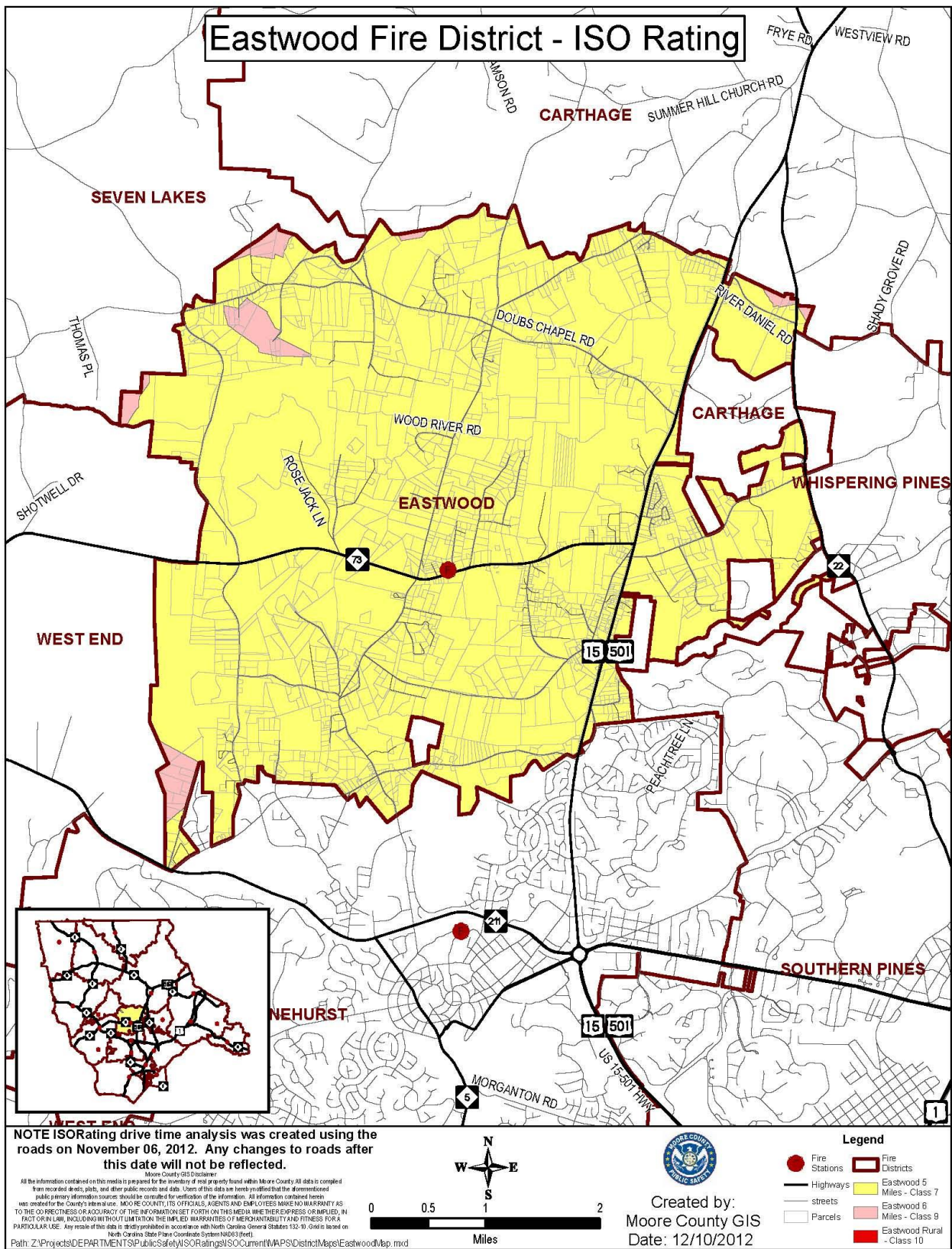






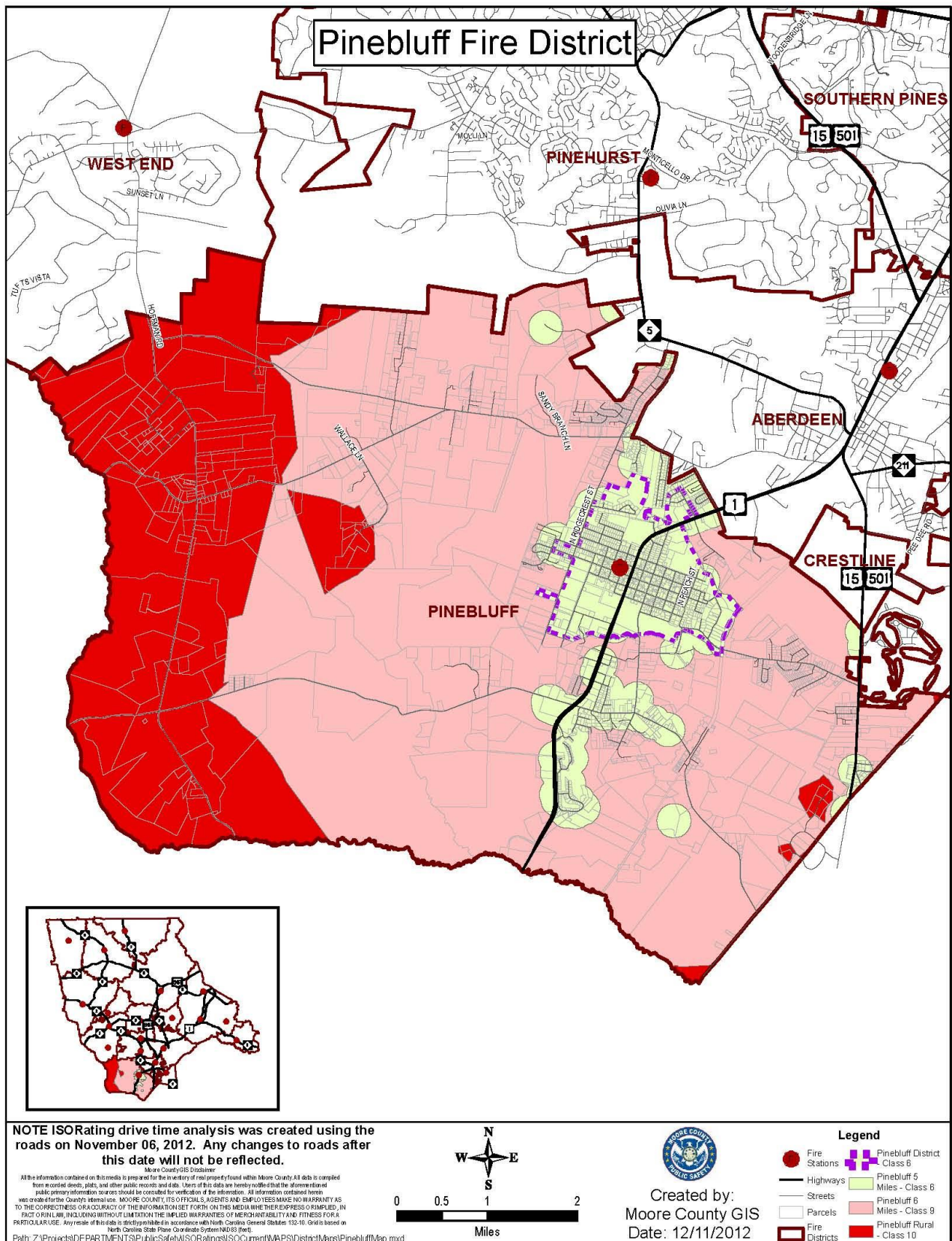




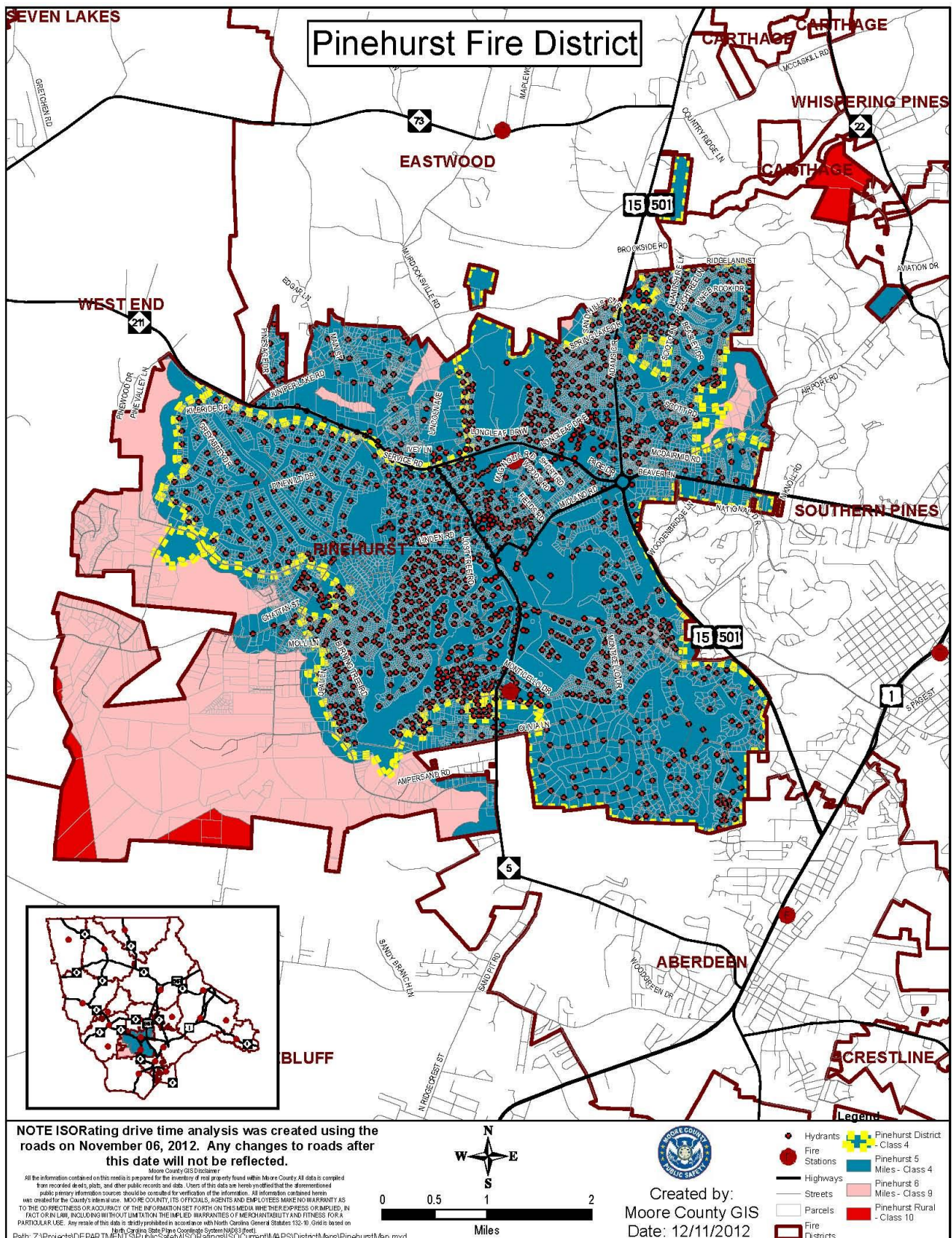




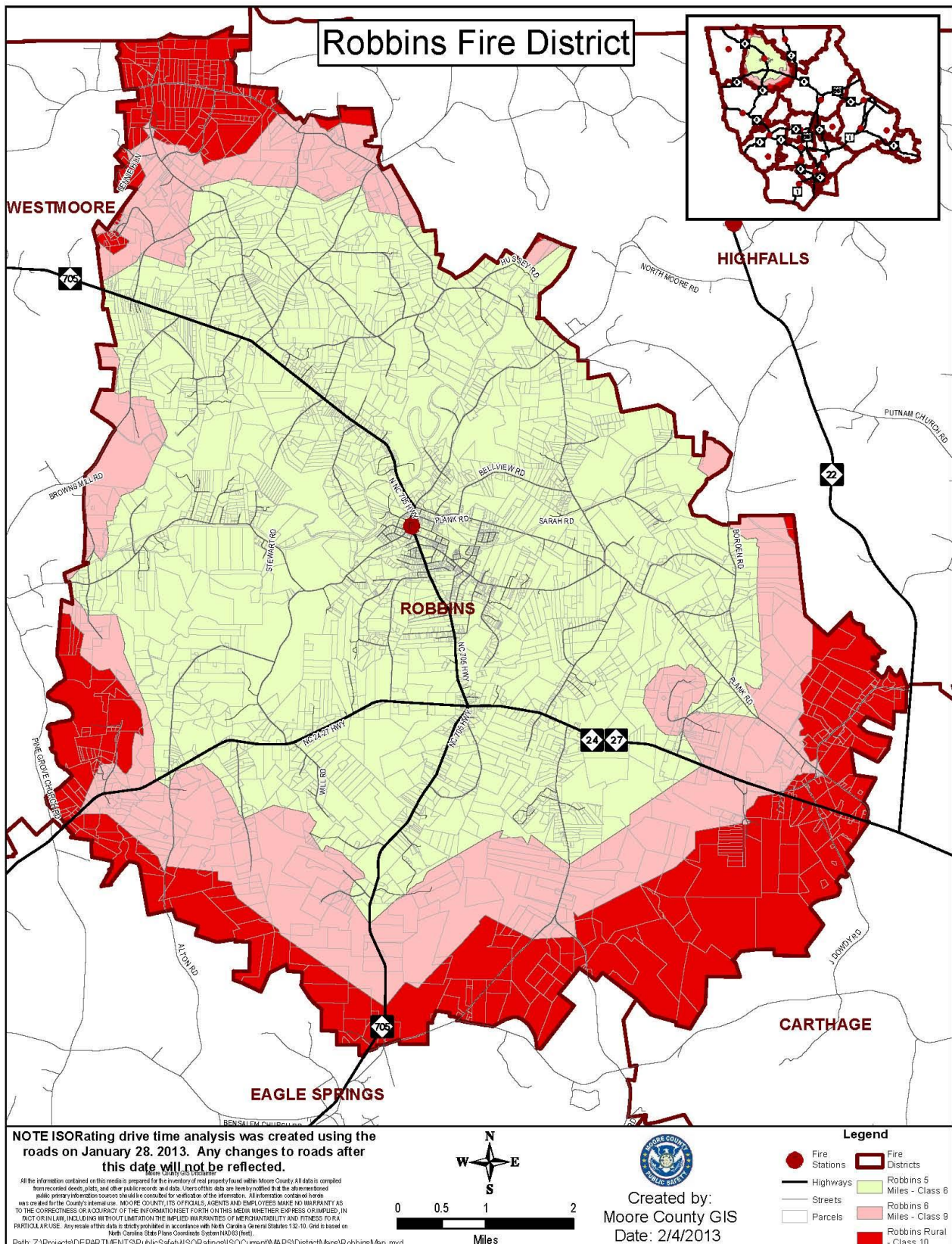


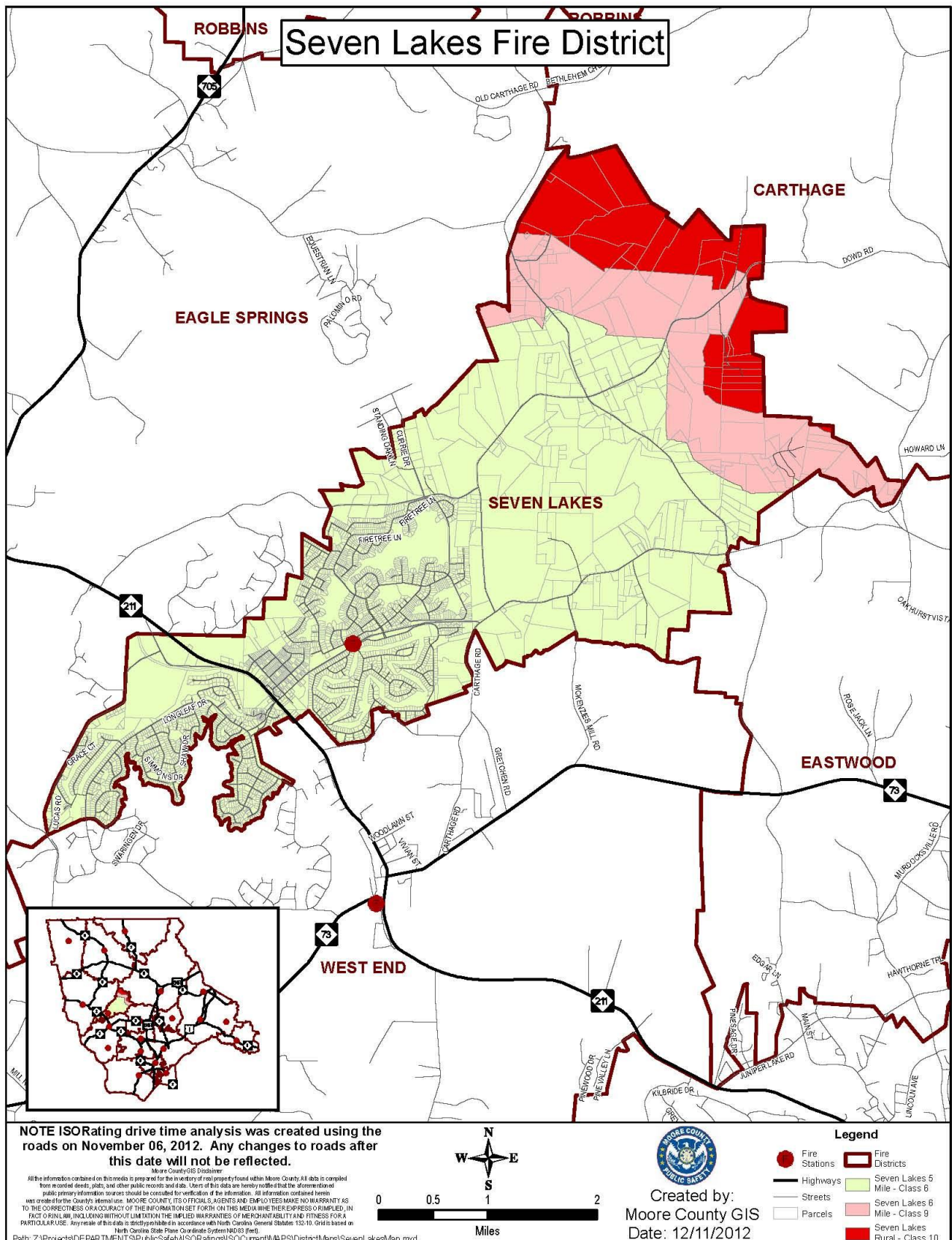




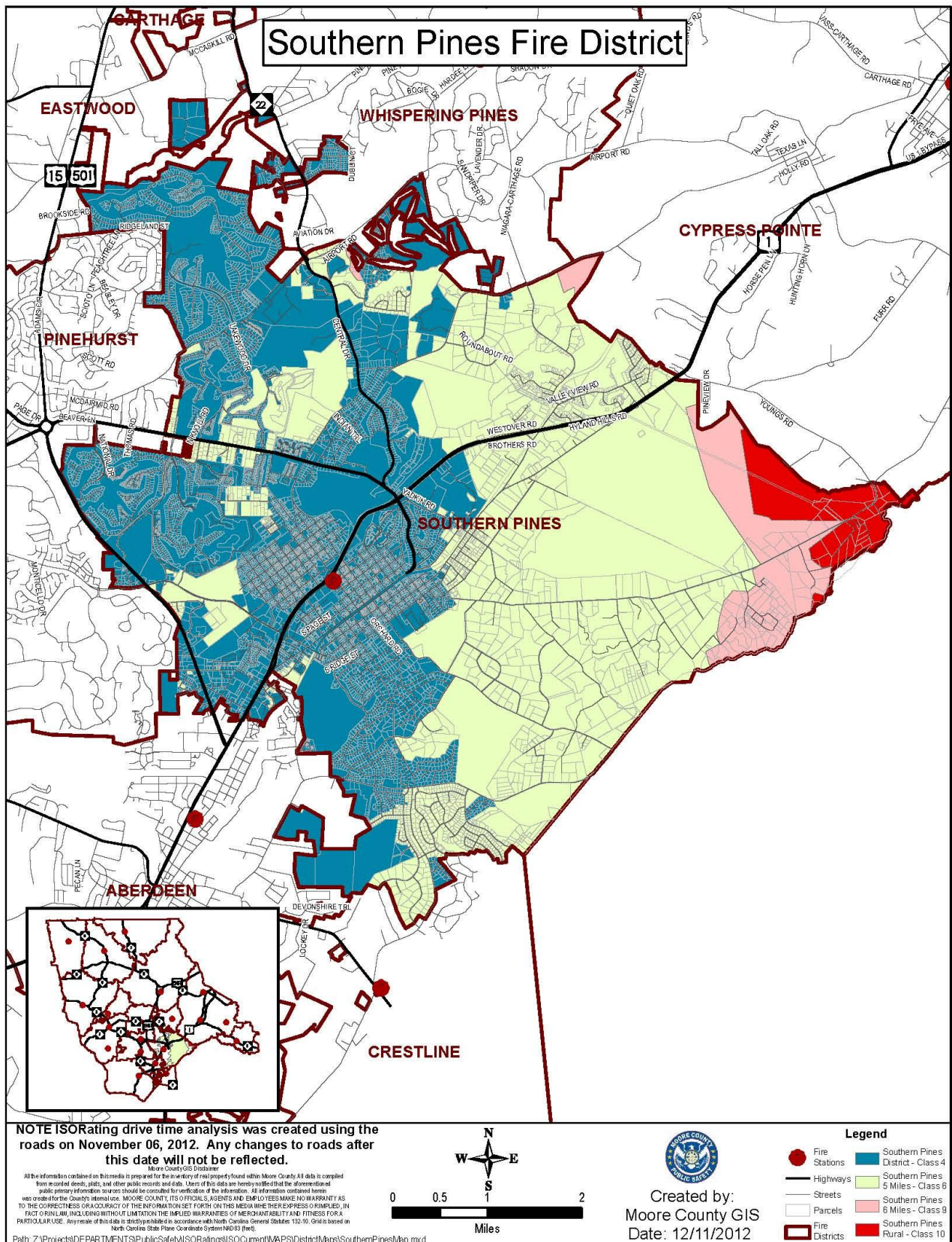




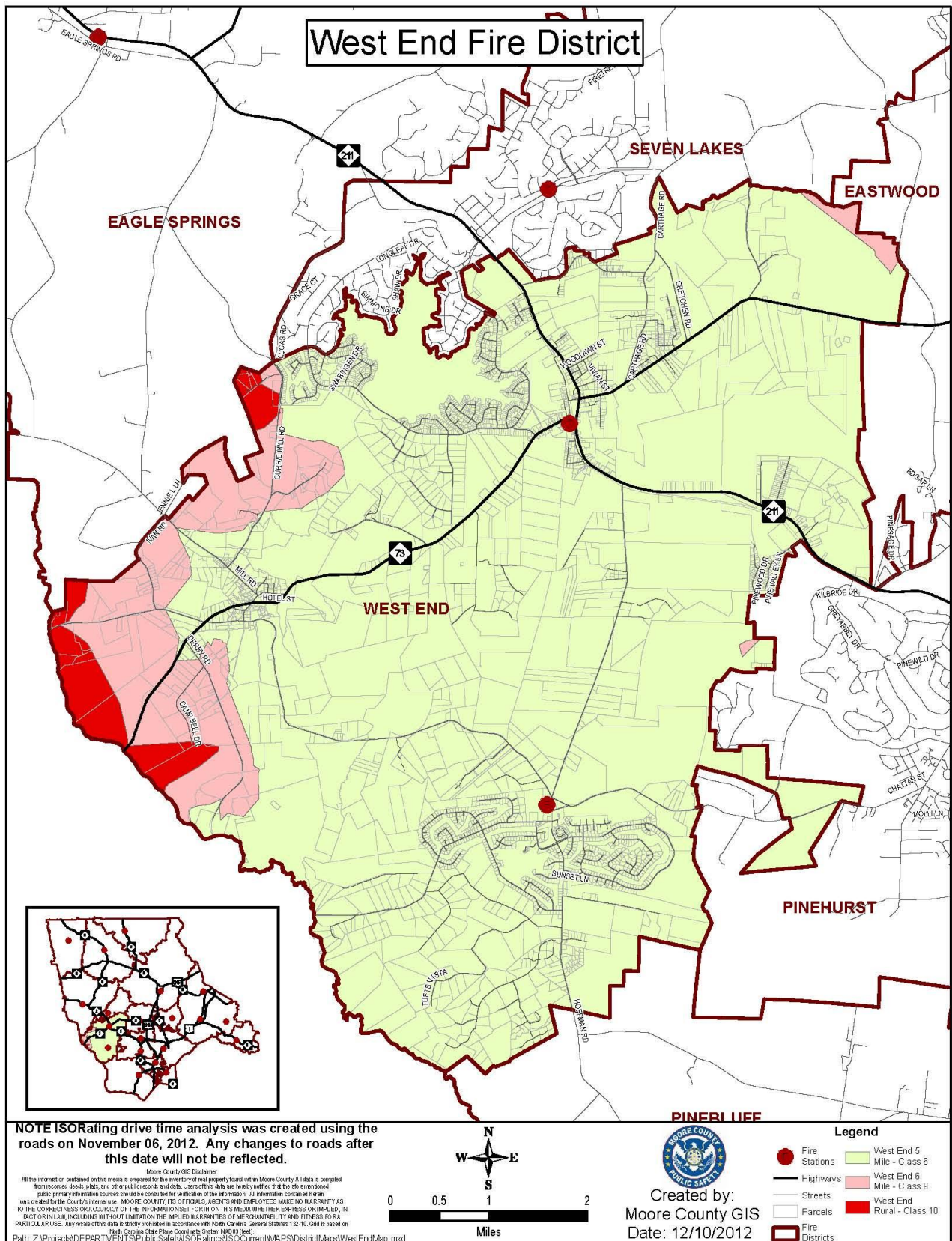


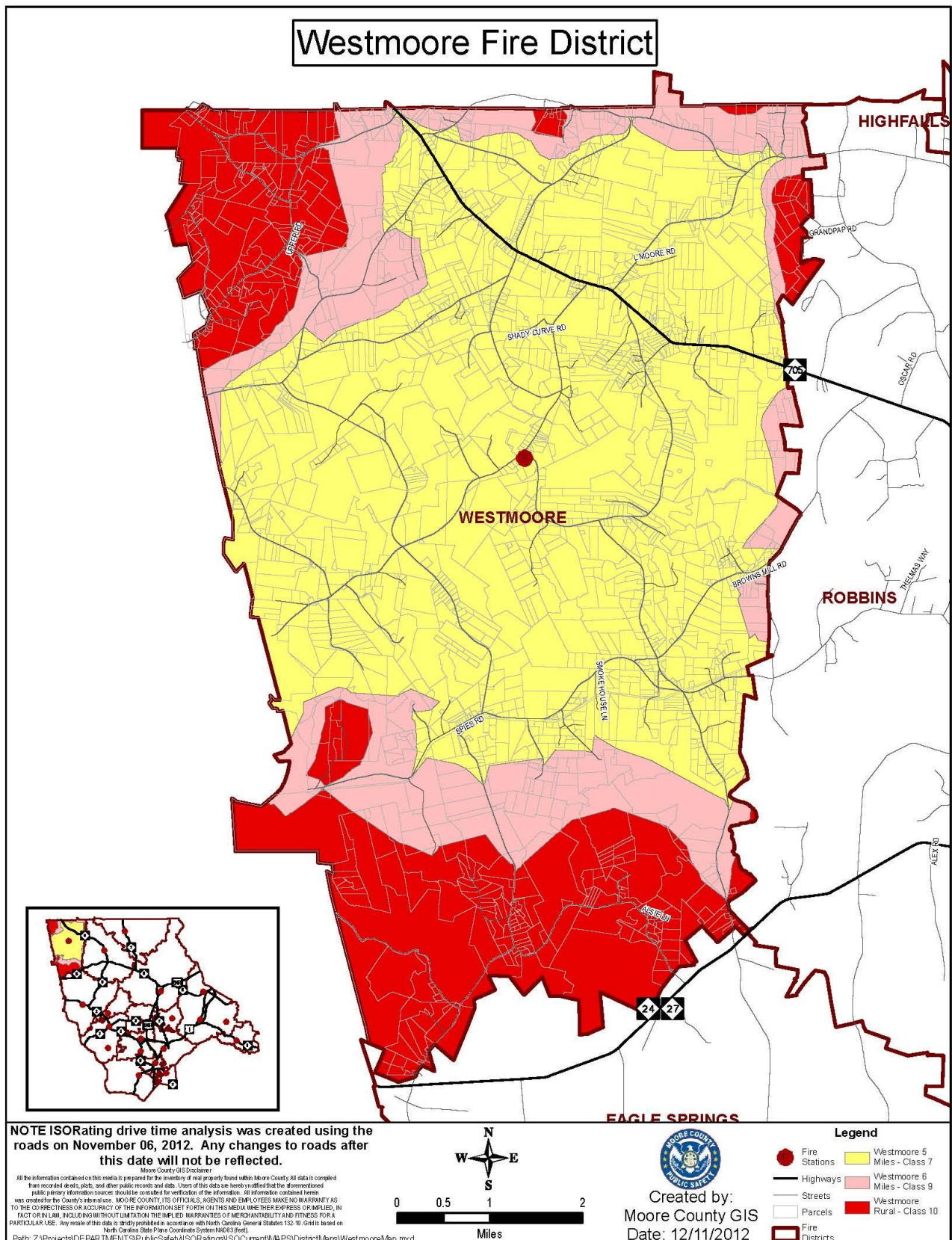




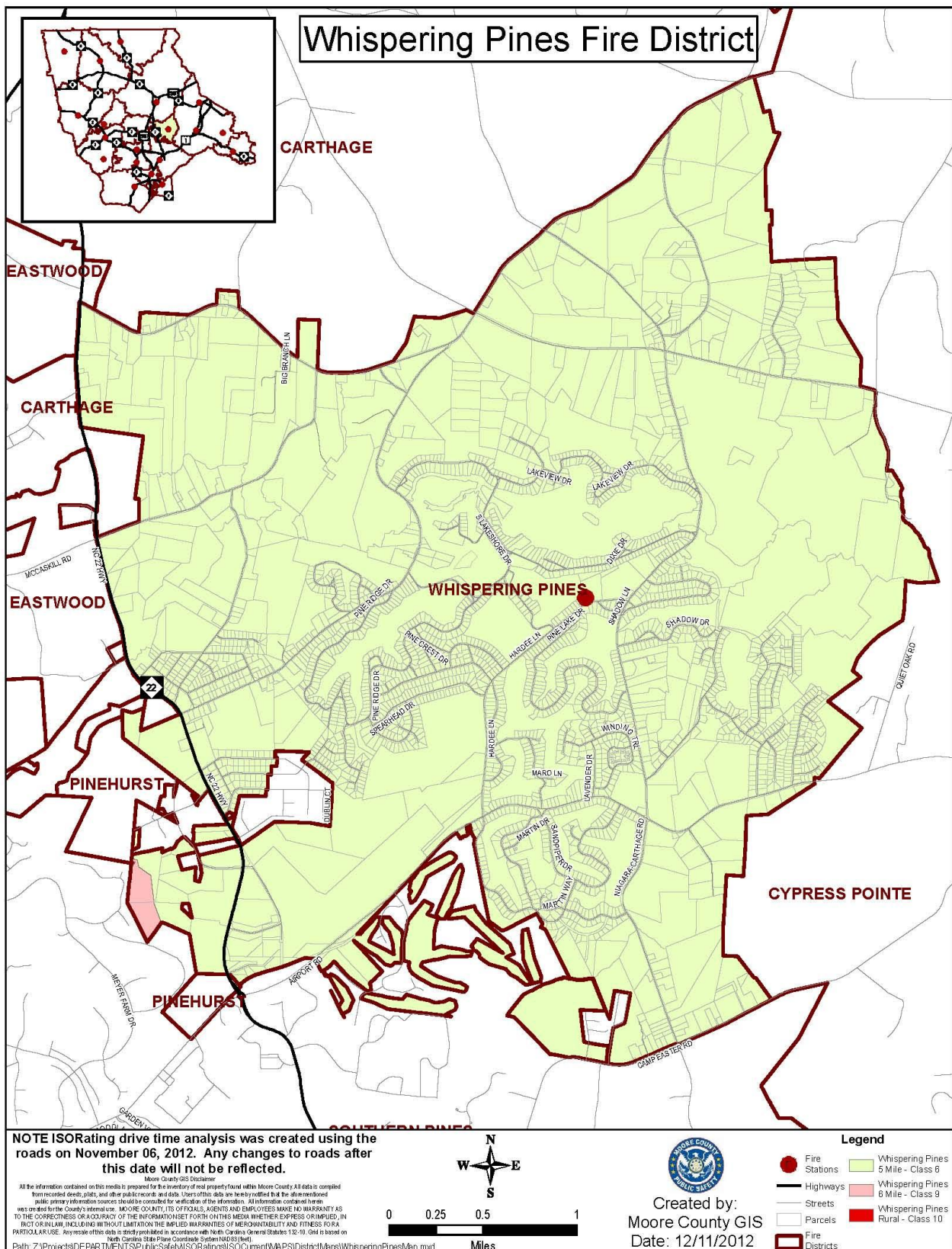












## Fire District Demographic Population & Area Summary\*

Fire District	Population Served	Square Miles Served	Population per square mile	NFPA Community status
Aberdeen	6,966	13.02	535.02	Suburban
Carthage	6,748	115.11	58.62	Rural
Crains Creek	1,732	123.12	14.06	Rural
Crestline	792	10.07	78.65	Rural
Cypress Pointe	9,340	95.23	98.07	Rural
Eagle Springs	2,888	71.27	40.52	Rural
Eastwood	2,347	22.81	102.89	Rural
Highfalls	2,058	61.03	33.72	Rural
Pinebluff	4,512	47.91	94.18	Rural
Pinehurst	16,723	28.91	578.45	Suburban
Robbins	5,698	70.77	80.51	Rural
Seven Lakes	3,542	17.35	204.15	Rural
Southern Pines	14,785	36.63	403.63	Suburban**
West End	3,478	46.20	75.28	Rural
Westmoore	2,719	55.32	49.15	Rural
Whispering Pines	3,919	14.36	272.91	Rural

\*Data provided by Moore County Fire Marshal (1/28/13)

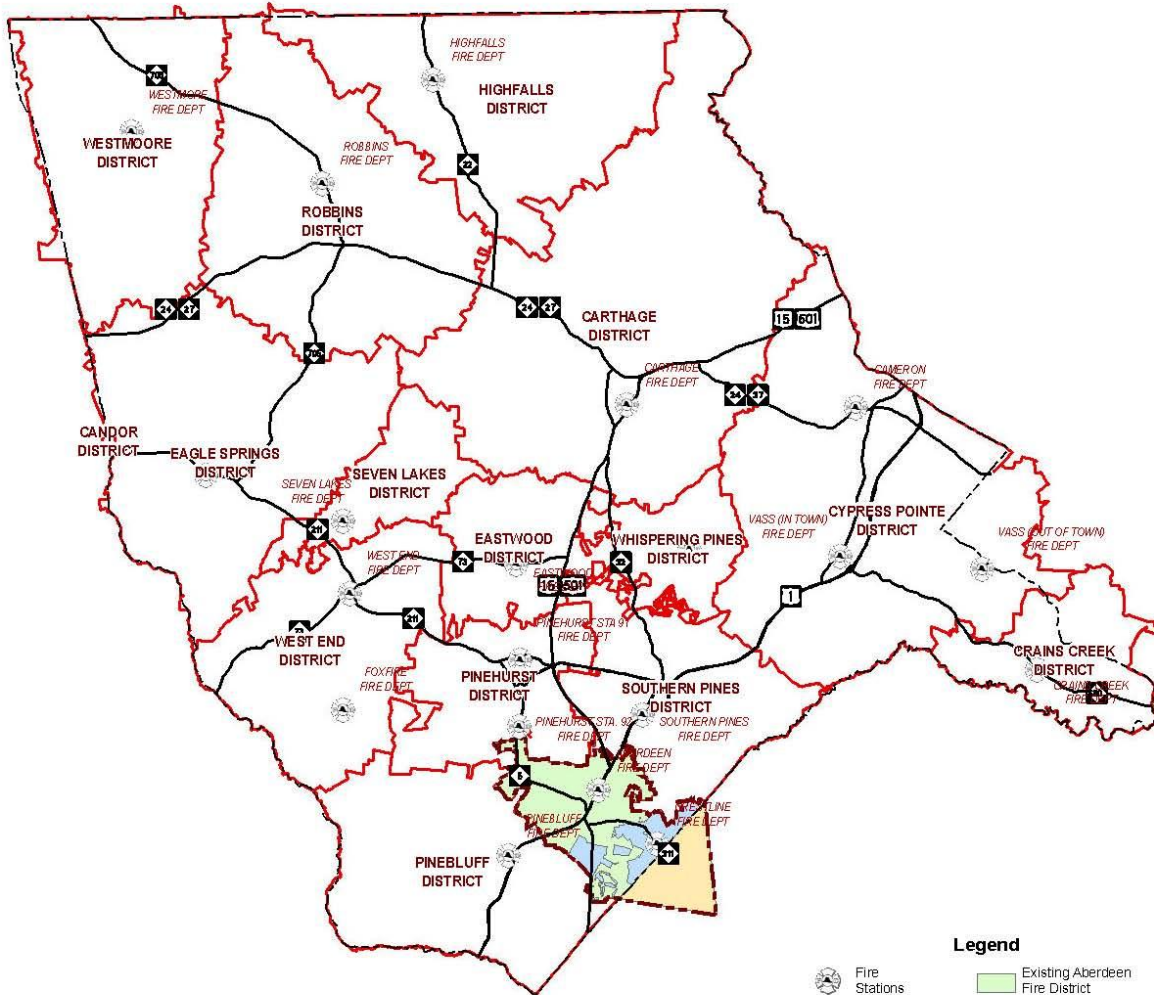
\*\*Classified suburban based upon project team review of area and demand, not just population density.

Several Fire District boundaries should be changed to reflect closet station response and an improved fire insurance rating.

Maps of these locations follows:

## Proposed District

Merging existing Aberdeen and Crestline Fire Districts

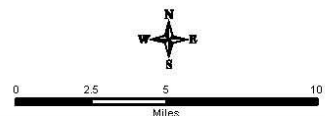


- Legend**
- Fire Stations
  - Highways
  - Moore County Line
  - Fire Districts
  - Proposed District
  - Existing Aberdeen Fire District
  - Existing Crestline Fire District located inside of Moore County
  - Existing Crestline Fire District located inside of Hoke County

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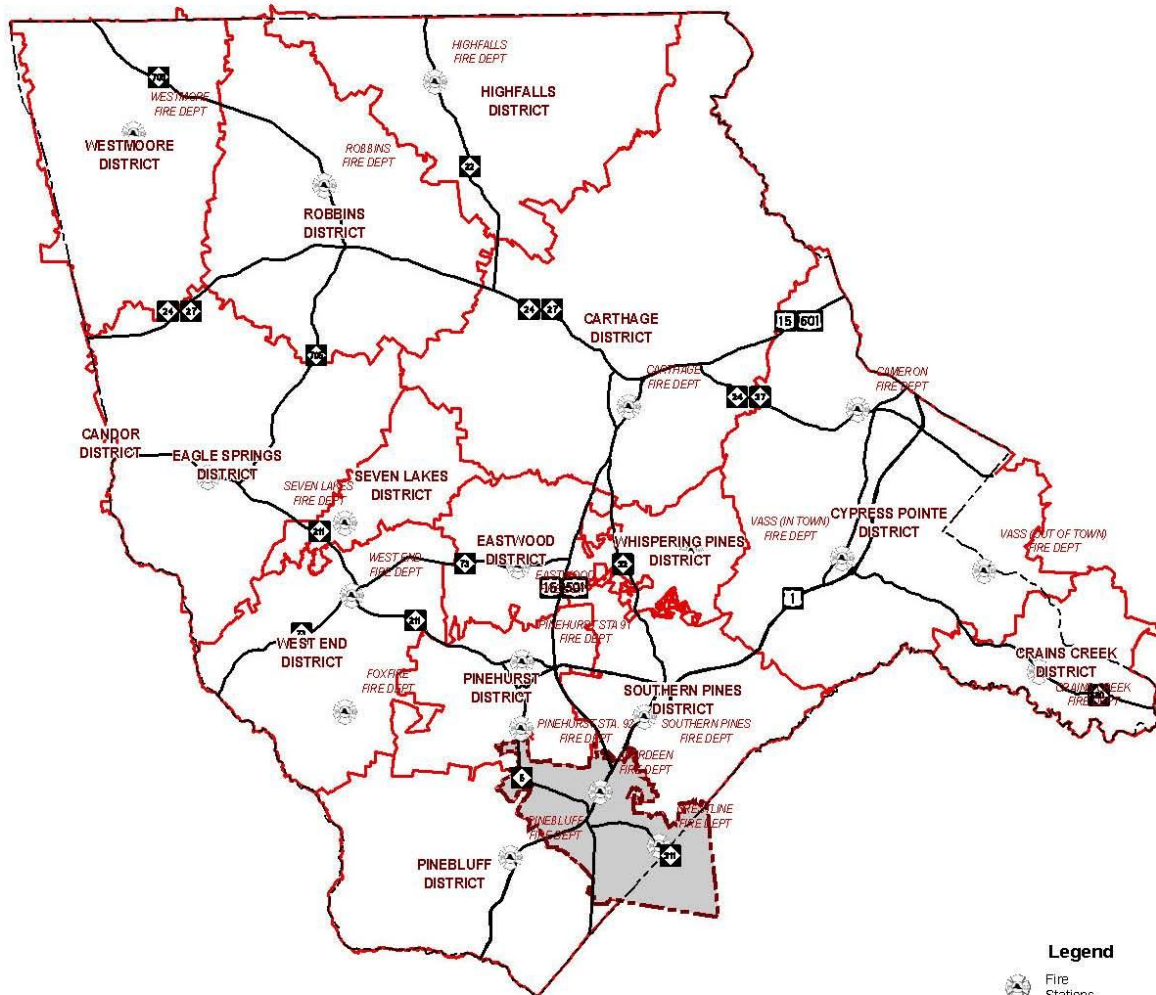
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## Proposed District

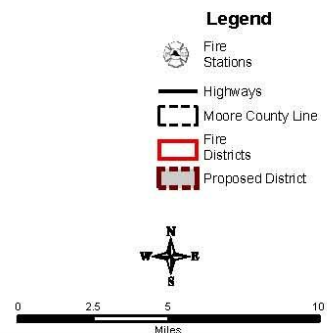
Merging existing Aberdeen and Crestline Fire Districts



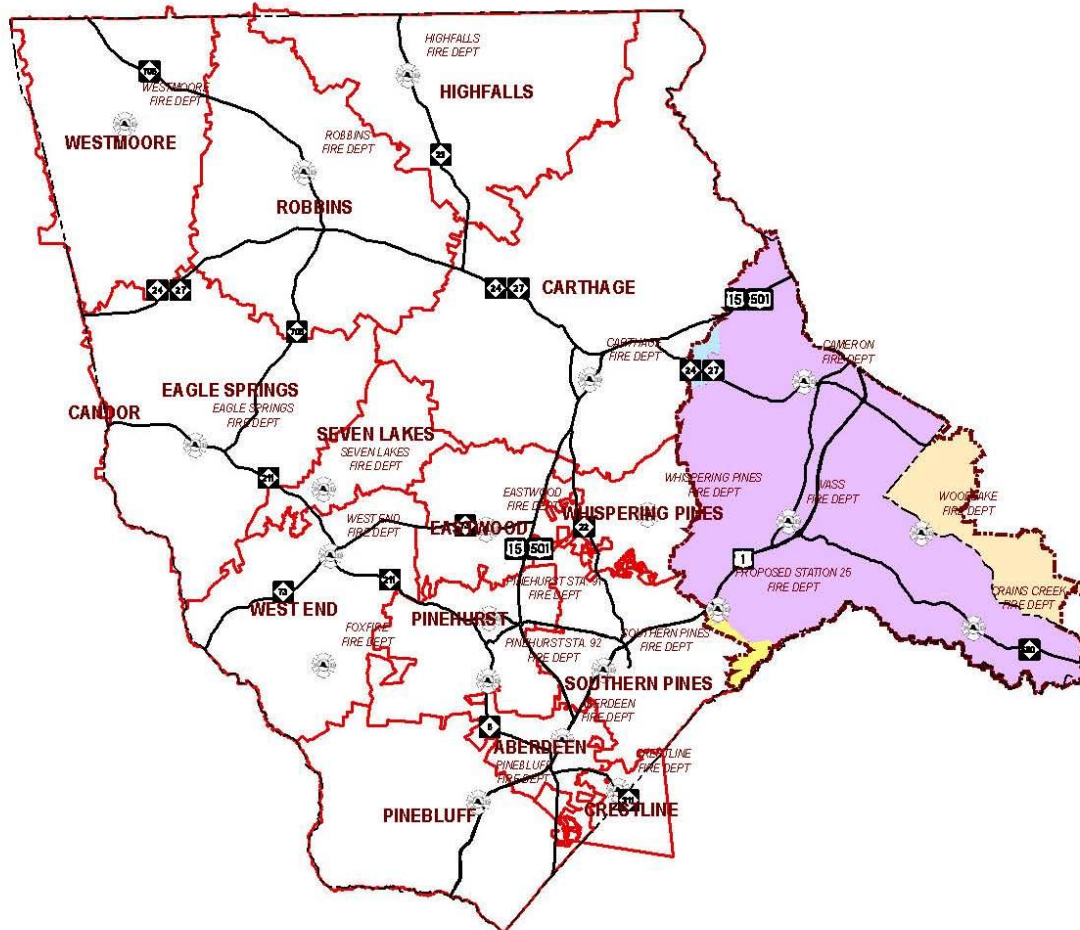
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## Proposed Cypress Pointe Fire District with additional station #25



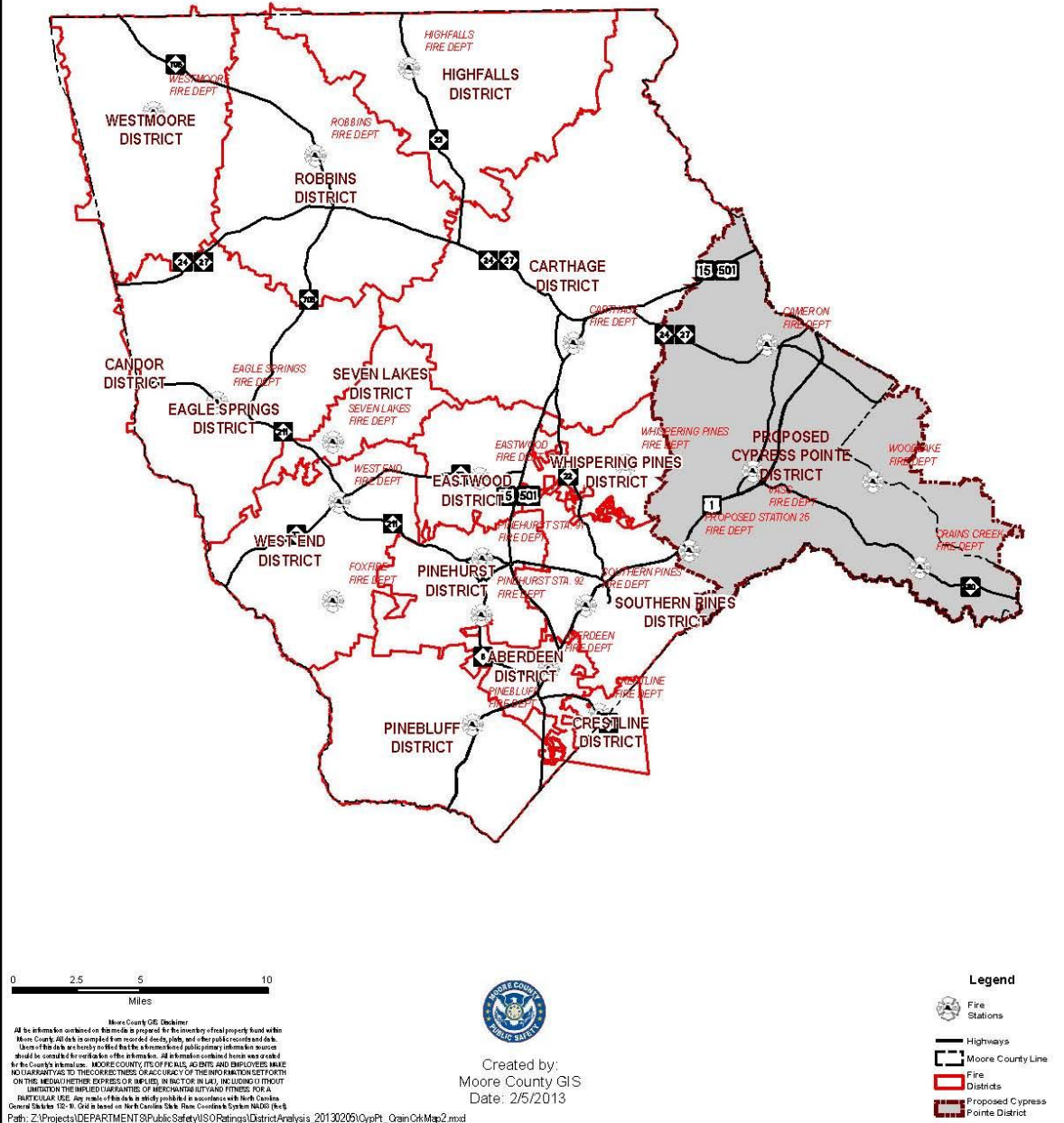
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- Legend**
- Fire Stations
  - Highways
  - Moore County Line
  - Proposed Cypress Pointe District
  - Fire Districts
  - Area in Harrell Co. in Cypress Pointe Proposed District
  - Proposed Cypress Pointe District - merging Cypress Pointe and Cramer Creek Districts
  - Proposed area covered by Cypress Pointe 5 mile that cover Carthage District's existing 6 mile and Outlying area
  - Additional area that will be covered by Proposed station #25

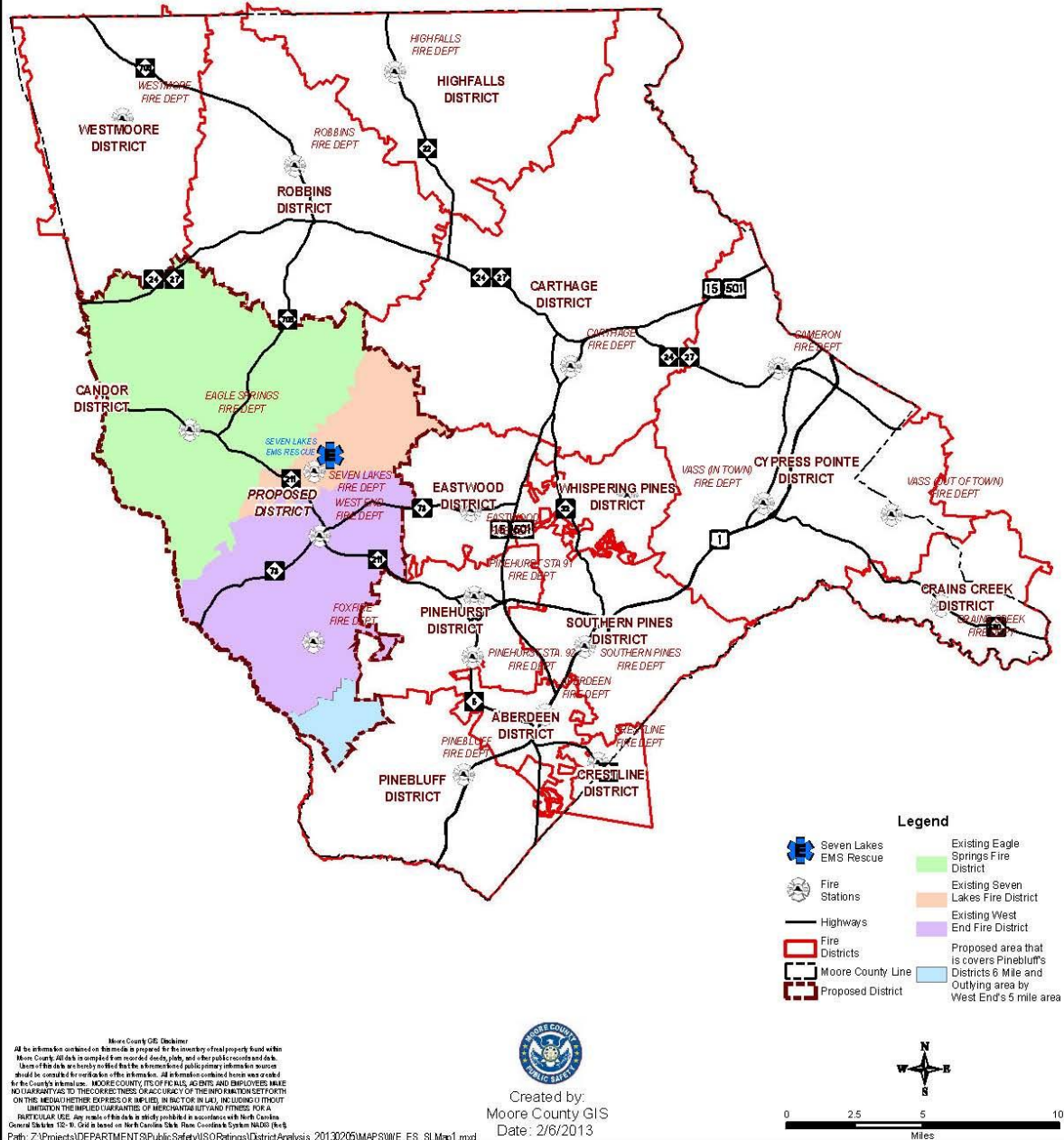
## Proposed Cypress Pointe Fire District with additional station #25





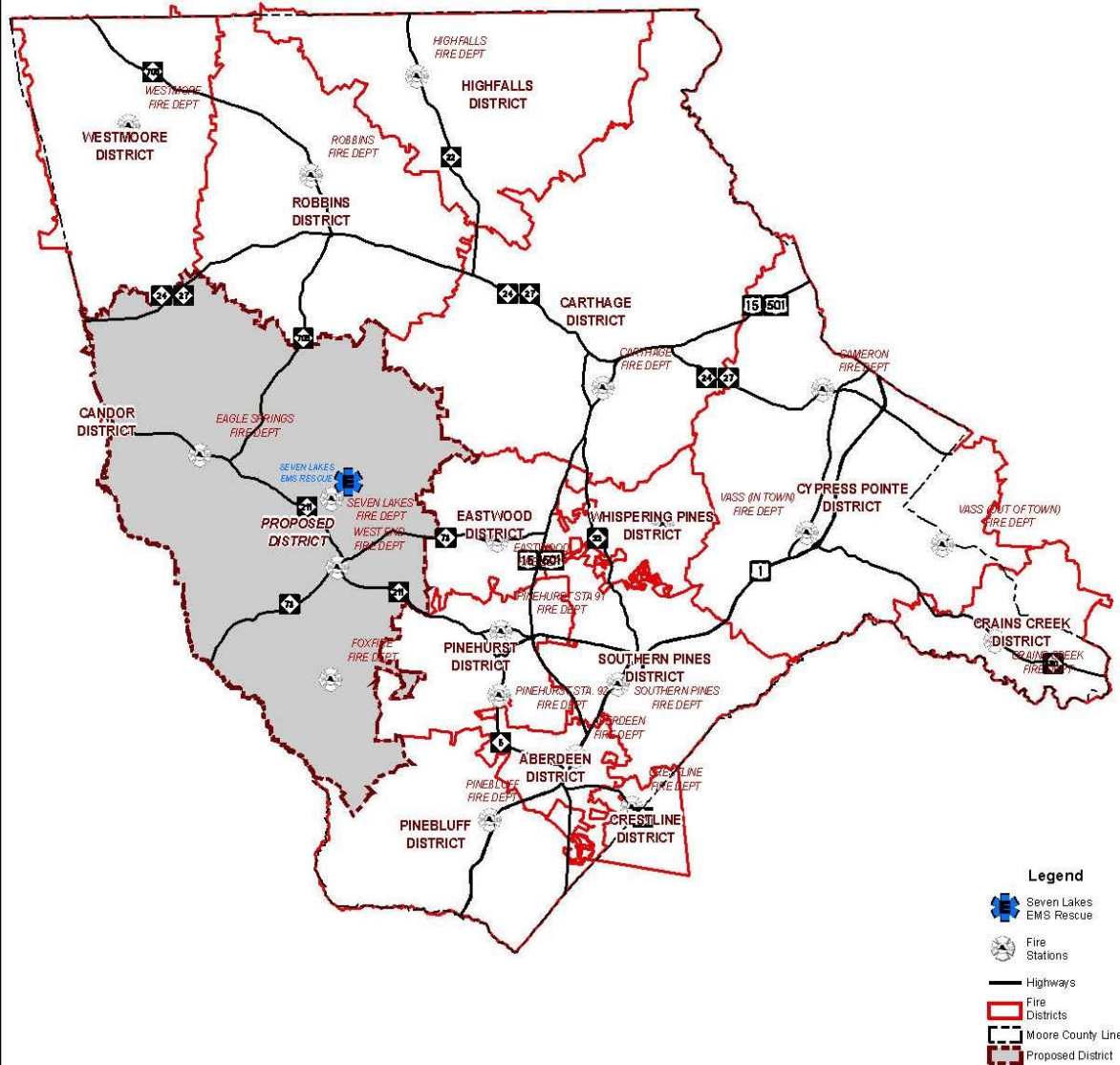
## Proposed District

Merging existing Eagle Springs, Seven Lakes and West End Fire Districts with modifications.



## Proposed District

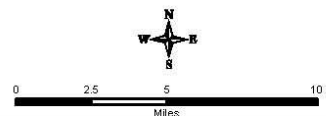
Merging existing Eagle Springs, Seven Lakes and West End Fire Districts with modifications.



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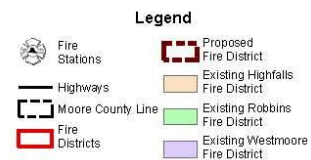
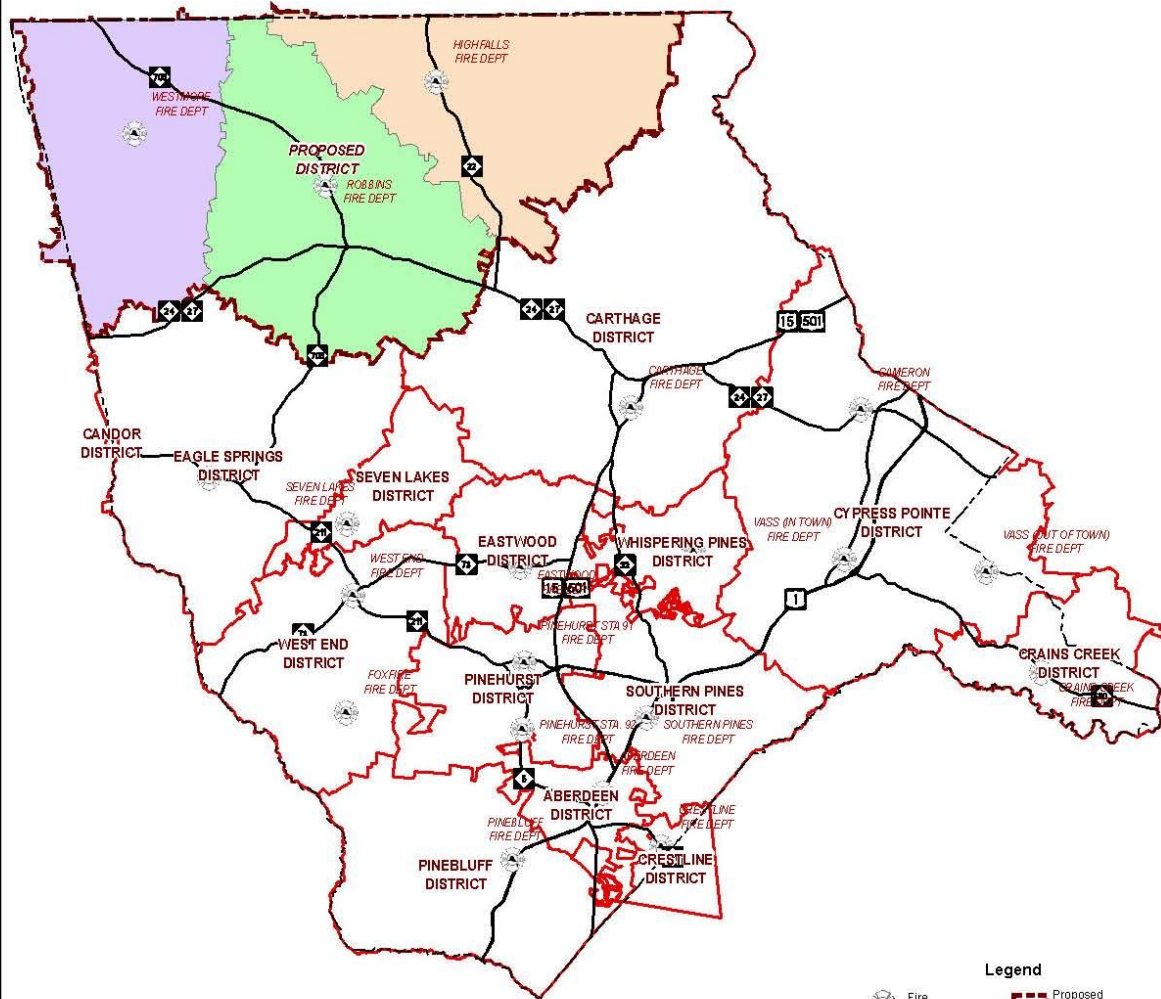


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## Proposed District

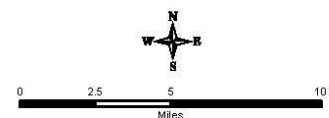
Merging existing Westmoore, Robbins and Highfalls Fire Districts



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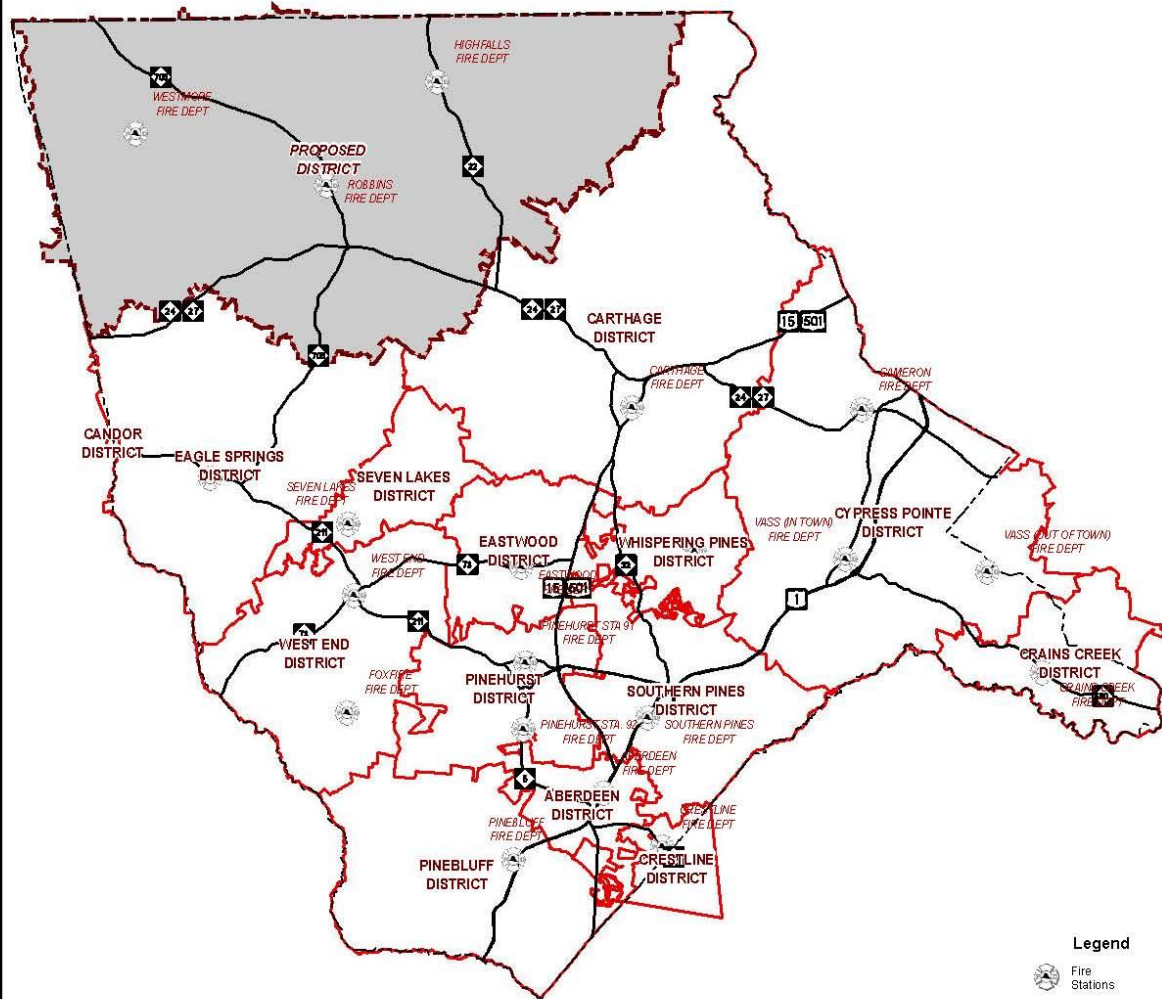
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## Proposed District

Merging existing Westmoore, Robbins and Highfalls Fire Districts



### Legend

- Fire Stations
- Highways
- Moore County Line
- Fire Districts
- Proposed Fire District

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General Statistics 152-11. Grid is based on North Carolina State Plane Coordinate System NAD83 (ft/s).  
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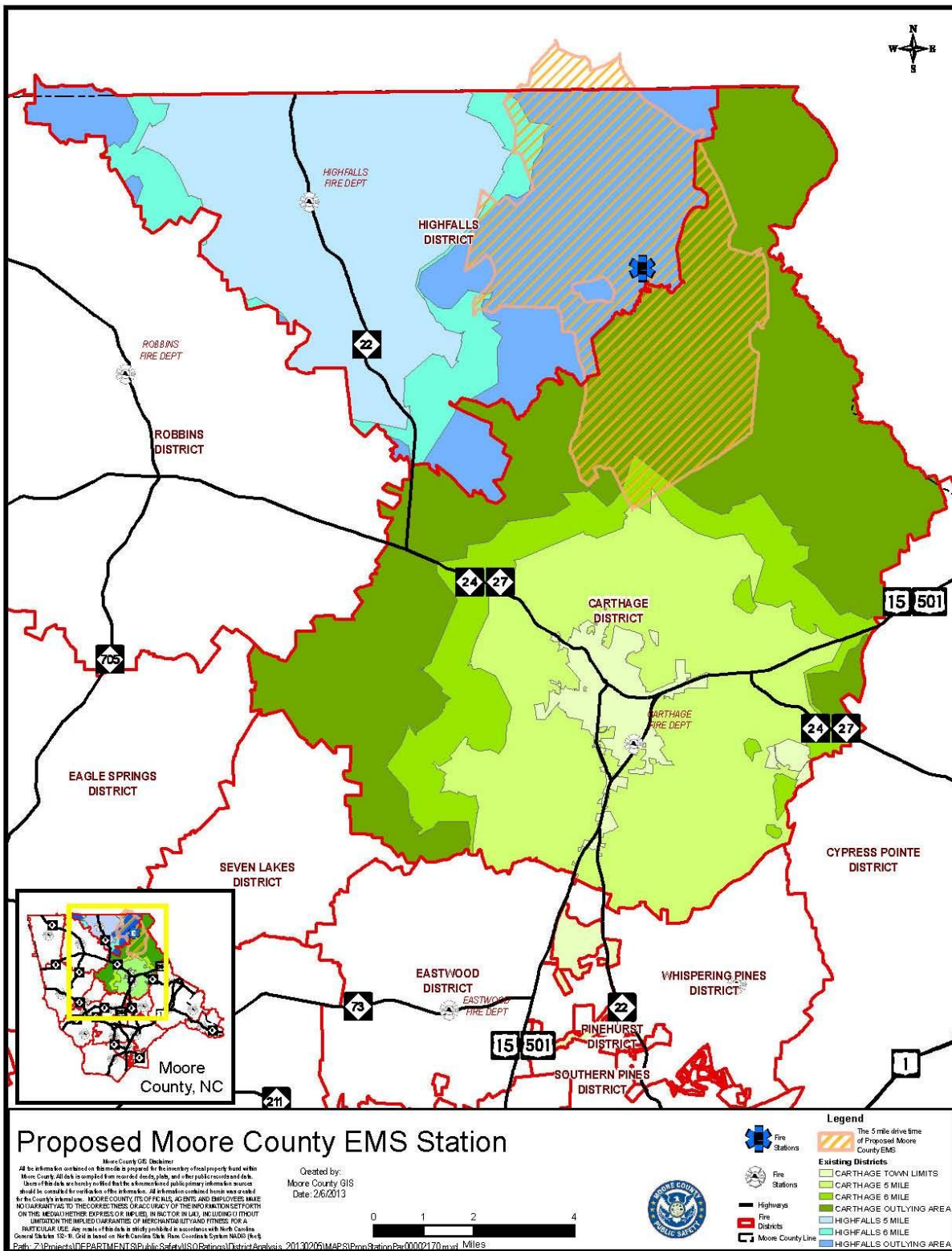


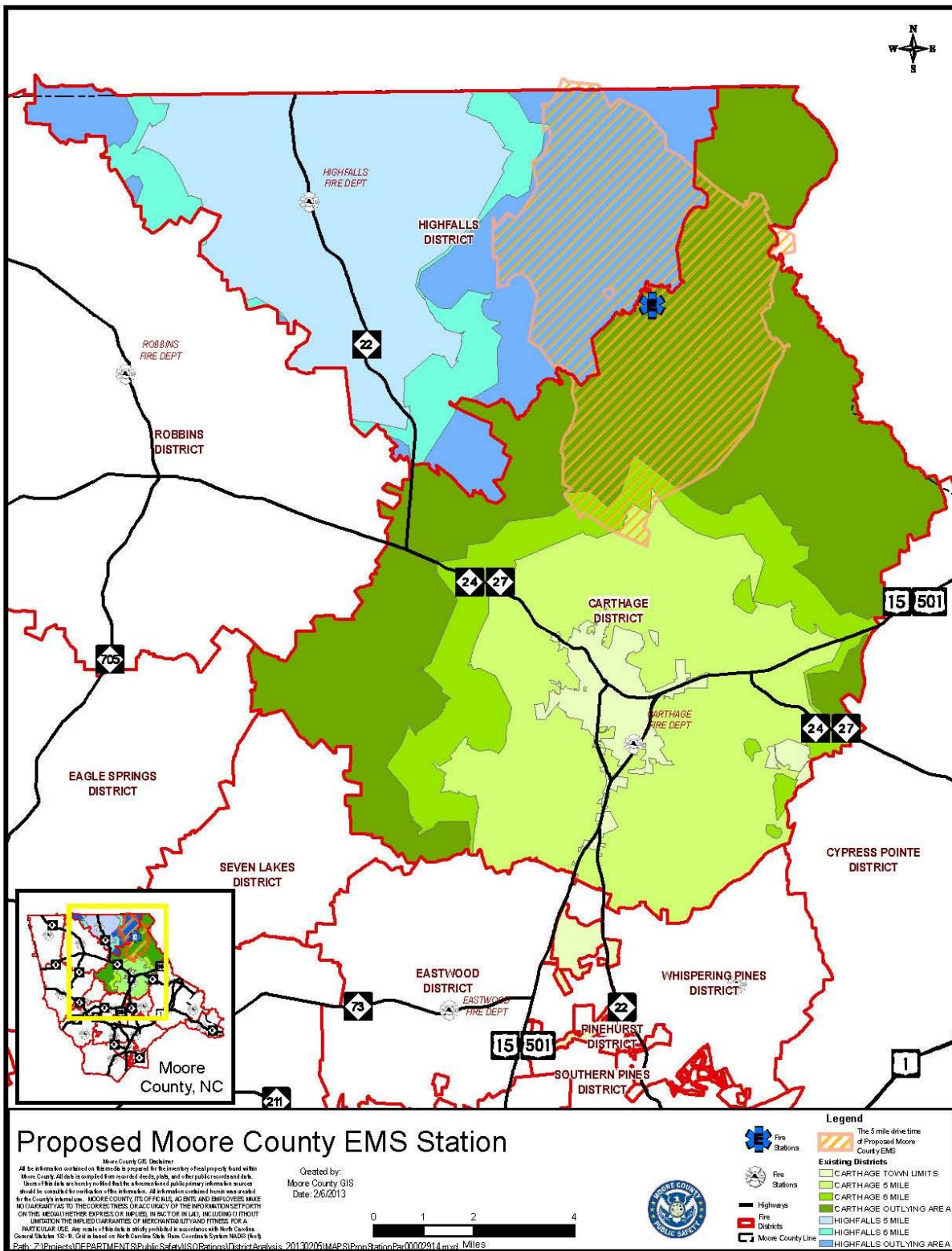
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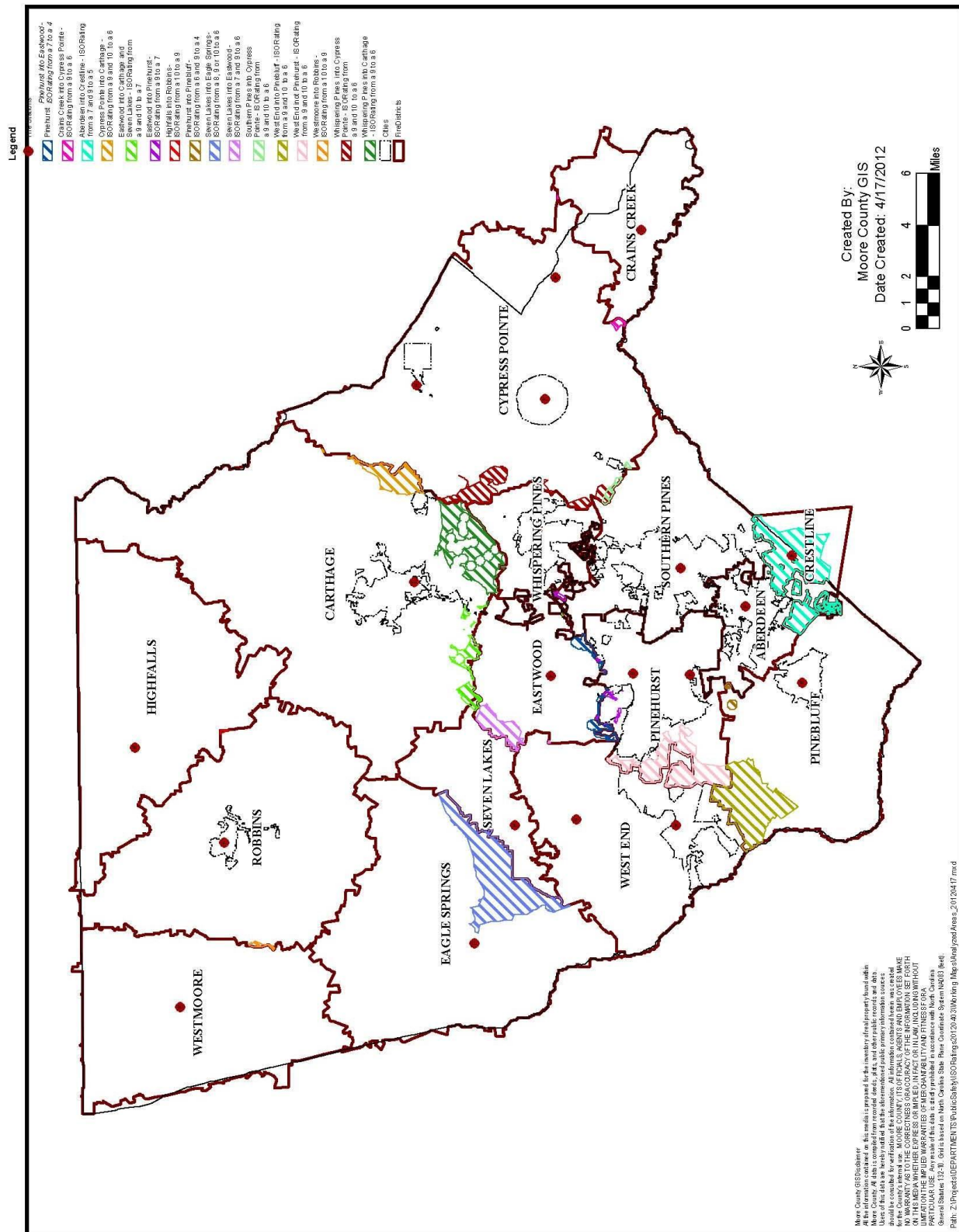


0 2.5 5 10  
Miles













### **RECOMMENDATIONS (as noted in the Executive Summary)**

13-05 To assure the closest apparatus responds to an incident, thus improving service delivery and the insurance rating of various sections of the county, response districts should be changed (revising the response boundary lines), consistent with the enclosed maps in the following areas:

- Cypress Pointe -Southern Pines
- Crains Creek
- Seven Lakes – Eagle Springs
- Carthage – Cypress Pointe
- Pinebluff – West End
- Aberdeen – Crestline

As well as the opportunities presented by a shift in demographics and use of GIS modeling for travel distance in affected areas.

13-06 Once the new 911 center is fully operational, contact the NCOSFM for re-evaluation of the NC-DOI(ISO) recommendations for the County Communications Center (related to telephone lines, number of operators, and emergency power supply for alarm dispatch circuits) to determine the potential to receive full NC-DOI(ISO) credit.

## **Standard of Cover (SOC), Response Times, & Station Locations**

One of the analytical models which was part of this process involves an evaluation of station location in proximity to the location and types of calls for assistance. A study such as this can determine where additional stations can be located to meet service delivery demands. Using a standard model advanced by the Insurance Services Office for basic station location analysis, Moore County was found to have unique locations, for several reasons.

The Insurance Services Office process uses the approach for response time that road distance criteria for engines (1.5 miles), ladders (2.5 miles) and in North Carolina a maximum distance (5 miles) translates into response time. The distances are based on a formula developed years ago by the RAND institute, and uses the equation:

$$T = 0.65 + 1.7D$$

T = travel time in minutes

D = distance in miles

The formula is based on an average 35 mph road speed, which is quite realistic for most areas considering road conditions and type, weather, intersections, traffic, etc. Mathematically, this converts travel distance of 1.5 miles to; engines 3.2 minutes, ladders 4.9 minutes, and a maximum response distance of 9.15 minutes. It is easy to see that times much greater than these are pushing the limits of the fire department's ability to successfully control a fire (especially considering that these are only travel times, not dispatch and turnout time etc). It is very easy to see why for most states the Insurance Services Office has a maximum 5 road mile distance for which a protected class (class 1 through 9) will apply; and anything over 5 road miles is almost a known higher loss and insurance industry data supports that.

Based on data received from the dispatch center, countywide SOC's were determined and found to range from

- One staffed apparatus on scene within 4:24 of dispatch to over
- One staffed apparatus on scene within 20:00 of dispatch

Unfortunately, the data provided was limited in analysis, and thus unable to extensively evaluate.

### **What we cannot know for each call is:**

- The response times for latter-due units
- How many units from each jurisdiction responded other than the first unit to arrive at scene

**By extension, what we could not report on was:**

- Concentration (how many units were committed and for how long)
- Availability (how often a unit and/or department was not available to respond to a call)
- Committed times of latter-due units
- Units cancelled in-route other than the first from each jurisdiction
- Travel times of latter-due units

**What we could report on was:**

- Call volume by city, hour of day, day of week, month, year and call type
- Committed times for first unit from each department at scene
- Turnout times for first unit from each department at scene
- Turnout times for first department unit at-scene by hour of day, day of week, call type
- Travel times for first department unit at-scene (with unit identified)
- Travel times for first department at-scene units by hour of day, day of week, call type
- Response times for first department unit at-scene (with unit identified)
- Response times for first department at-scene units by hour of day, day of week, call type
- Mutual aid provided (first unit only)

There were 832 records identified as “CONTROLLED BURN”. These records had unique incident numbers and no times associated with unit activity. They are all excluded from the analyses contained in the report.

The final analyses within each grouping are cumulative frequencies for the response times of the first unit to arrive at an incident where the response is emergency response and under 25 minutes.

More extensive detail based on this data analysis can be found in Appendix 4.



## Agency Response Performance

Agency	Response Time 00:00-06:59 (seconds)	Staff	Response Time 07:00-17:00 (seconds)	Staff	Response Time 17:01-23:59 (seconds)	Staff	Average
Aberdeen Fire & Rescue	6:26	Pd – 9 Vol – 4	4:24	Pd – 11 Vol – 4	4:38	Pd – 9 Vol – 4	5:09
Carthage Fire & Rescue	13:22	Pd – 0 Vol – 15	6:16	Pd – 4 Vol – 8	7:33	Pd – 0 Vol – 15	9:03
Cypress Pointe Fire & Rescue	8:42	Pd – 7 Vol – 2	5:29	Pd – 7 Vol – 2	7:11	Pd – 7 Vol – 2	7:03
Crains Creek VFD	10:51	Pd – 3 Vol – 3	5:35	Pd – 3 Vol – 3	6:52	Pd – 3 Vol – 3	7:46
Crestline VFD	10:39	Pd – 0 Vol – 12	5:54	Pd – 1 Vol – 3	6:23	Pd – 0 Vol – 12	7:38
Eagle Springs VFD	13:30	Pd – 0 Vol – 12	7:55	Pd – 3 Vol – 0	9:22	Pd – 0 Vol – 12	10:15
Eastwood VFD	9:12	Pd – 0 Vol – 10	7:28	Pd – 1 Vol – 5	6:42	Pd – 0 Vol – 10	7:47
Highfalls Fire & Rescue	19:12	Pd – 3 Vol – 1	7:10	Pd – 2 Vol – 2	20:08	Pd – 3 Vol – 1	15:30
Pinebluff FD	13:19	Pd – 8 Vol – 0	7:12	Pd – 3 Vol – 1	9:55	Pd – 8 Vol – 0	10:08
Pinehurst FD	7:09	Pd – 12 Vol – 0	5:38	Pd – 8 Vol – 0	6:09	Pd – 12 Vol – 0	6:18
Robbins FD	13:37	Pd – 0 Vol – 8	8:13	Pd – 2 Vol – 4	8:45	Pd – 0 Vol – 8	10:11
Robbins Rescue Squad	16:07	Pd – 1 Vol – 3	8:03	Pd – 0 Vol – 2	5:55	Pd – 1 Vol – 3	10:01
Seven Lakes EMS	*	Pd – 0 Vol – 12	*	Pd – 1 Vol – 3	*	Pd – 0 Vol – 12	*
Seven Lakes VFD	12:50	Pd – 7 Vol – 1	10:44	Pd – 4 Vol – 3	10:01	Pd – 7 Vol – 1	11:11
Southern Pines Fire & Rescue	6:06	Pd – 3 Vol – 2	4:36	Pd – 10 Vol – 2	4:59	Pd – 3 Vol – 2	5:13
West End Fire & Rescue	11:10	Pd – 0 Vol – 10	10:37	Pd – 3 Vol – 2	7:21	Pd – 0 Vol – 10	9:42
Westmoore VFD	9:40	Pd – 0 Vol – 10	9:38	Pd – 1 Vol – 2	12:20	Pd – 1 Vol – 10	10:32
Whispering Pines FD	*	Pd – 0 Vol – 10	*	Pd – 4 Vol – 2	*	Pd – Vol –	*
<b>Average</b>	<b>11:22</b>		<b>7:10</b>		<b>8:23</b>		<b>8:58</b>

\* Call reports incomplete

## **Facilities**

The facilities were evaluated to consider suitability, maintenance, and safety considering the current operational requirements of each fire department. Conditions are as follows:

<b>Agency</b>	<b>Assessment</b>	<b>Comment</b>	<b>Needs Replaced in 5 Years</b>
Aberdeen F&R – Station 41	Excellent	-	-
Carthage F&R – Station 31	Good	-	-
Cypress Point F&R– Station 21	Excellent	-	-
Cypress Point F&R – Station 22	Good	-	-
Cypress Point F&R – Station 24	Good	-	-
Crains Creek VFD Station 23	Good	-	-
Crestline VFD Station 72	Fair	Needs upgrades	Upgrade
Eagle Springs VFD Station 62	Good	Tight quarters	-
Eastwood VFD - Station 52	Excellent	-	-
Highfalls F&R – Station 12	Fair	Dated, remodel/replace	Upgrade
Pinebluff FD - Station 71	Fair	Dated, low ceilings, repairs	Upgrade
Pinehurst FD - Station 91	Excellent	-	-
Pinehurst FD - Station 92	Good	-	-
Robbins FD - Station 11	Poor	Crowded, outdated	New station under construction
Robbins Rescue Squad – Station 10	Poor	Crowded, outdated	Merge with Robbins FD
Seven Lakes EMS - Station 69	Excellent	-	-
Seven Lakes VFD - Station 63	Excellent	-	-
Southern Pines F&R Dept – Sta 81	Excellent	-	-
West End F&R – Station 61	Fair	Dated, but usable	
West End F&R – Station 61 Foxfire	Good	-	-
Westmoore VFD - Station 14	Excellent	-	-
Whispering Pines FD - Station 51	Good	-	-

\*The ratings are based on project team assessment as observed during visit  
 Excellent = relatively new & above average in construction, maintenance, functionality  
 Good = useful and meets needs, is well maintained and functional  
 Fair = meets need, but has deficiencies  
 Poor = old, needs maintenance, not useful as fire/EMS station

Individual station assessments are as follows:



Aberdeen Fire Department  
Station 41

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1984 2012	No	Yes	Yes	Yes	Yes	Excellent	



Carthage Fire Department  
Station 31

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1998	No	Partial	Yes	Partial	Yes	Good	Old industrial building converted to municipal facility



Cypress Pointe Fire Department  
Station 21

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1990 2004	Partial	Full	No	Monitored	Yes	Excellent	



Cypress Pointe Fire Department  
Station 22

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1998	No	Partial	No	Local	Yes	Excellent	



Cypress Pointe Fire Department  
Station 24

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1983	Partial	Yes	No	Monitored	Yes	Good	



Crains Creek Fire Deaprtment

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1999 2001	No	Yes	No	Local	No	Good	





Crestline Fire Department  
Station 72

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1997	No	No	No	No	Yes	Fair	Upgrades needed



Eagle Springs Fire Department  
Station 62

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1955 1990	No	Yes	No	No	Yes	Good	Tight quarters



Eastwood Fire Department  
Station 52

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1979	Fan System	Yes	All but apparatus bays	Yes	No	Excellent	



Highfalls Fire Department  
Station 12

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1957 1976	No	No	No	No	No	Poor	Dated, needs upgrades



Pinebluff Fire Department  
Station 71

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1926 1946 1970	No	Yes	No	Local	Yes	Fair	Dated, low ceiling, needs upgrades



Pinehurst Fire Department  
Station 91  
Main Station

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
2005	No	Yes	Yes	Yes	Yes	Excellent	



Pinehurst Fire Department  
Station 92

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1992	No	Yes	Yes	Yes	Yes	Good	



Robbins Fire Department  
Station 11

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1950's	Yes	Yes	No	No	No	Poor	New station under construction (Fire Tax & USFA Grant)





Robbins Rescue Squad  
Station 10

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1950's	Yes	Yes	No	No	No	Poor	Tight quarters, overhead door partial manual



Seven Lakes Fire Department  
Station 63

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1976	Partial	Yes	No	Partial Local	Yes	Excellent	



Seven Lakes EMS Station  
Stations 69

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1993	No	Yes	No	No	Yes	Excellent	



Southern Pines Fire Department  
Station 81

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
2002	Yes	Yes	Yes	Yes	Yes	Excellent	



West End Fire Department  
Station 61 - Foxfire

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
2002	No	No	Yes	Local	Yes	Good	



West End Fire Department  
Station 61

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1982	No	Yes	No	Local	Yes	Fair	Dated, repairs & upgrades needed



Westmoore Fire Department  
Station 14

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1998	No	Yes	No	Yes	Yes	Excellent	



Whispering Pines Fire Department  
Station 51

Year Built	Exhaust	Generator	Sprinkler	Detectors	Inspect	Rating	Comments
1995	No	Yes	No	Yes	Yes	Good	



County fire department apparatus in a number of cases are not themselves protected against damage due to fire. Fire stations and apparatus are critical infrastructure for the County. Fire stations including one or more constructed in the past year were noted to not be equipped with fire alarms. Some stations have combustible construction.

The Highfalls fire station (no hood and ductwork over cooking area), Pinebluff and Crestline station require updating. Several new stations are being planned or suggested as a result of this project. Appendix 7 details minimum requirements for any new fire stations to be constructed.

There was also inconsistency in the safety considerations implemented within fire stations. Features such as monitored fire alarm systems, automatic fire sprinklers and point of capture exhaust systems should be standard building features, yet were found to not be integrated into newly constructed stations.

### **RECOMMENDATIONS (as noted in the Executive Summary)**

- 13-07 Several fire stations require structural repairs (non-imminent danger) and/or cosmetic improvements to enhance the working environment. These stations include:
- Highfalls FD
  - Crestline FD
  - Pinebluff FD
- 13-08 Point of capture diesel exhaust systems should be installed in all fire stations that do not have them currently. A county-wide grant should be submitted to the Assistance to Firefighter Grant Program to fund this effort.
- 13-09 New Fire/EMS stations are planned for and should be built to provide for service enhancement and insurance rate reduction as follows:
- Southern Pines Substation (with EMS)
  - Cypress Pointe Substation (no EMS)
  - Carthage-Highfalls-Moore County EMS joint station

## Apparatus

This project included an assessment of the apparatus needs of the county, as defined by risk evaluations conducted to date and are evaluated for adequate functioning and reliable condition. The apparatus located in the county are indicated later in this section.

The fire departments have provided the equipment to meet the actual demands being placed upon the companies (water for fire suppression), with secondary needs (threat/hazard based).

Based on physical observation and discussion with officers and members, as well as the review of various documents, the project team evaluated the apparatus as indicated in this section.

This plan developed and documented an assumption that future allocated tax dollars would fund the apparatus.

Critical to the longevity, service ability, functional ability, and reliability is the maintenance of the apparatus. Overall the apparatus in service today is in generally good repair with just a few pieces of equipment considered nearing its functional performance life to Moore County. There are a couple of fundamental decisions that have to be made with regard to replacing fire apparatus. These decisions include “what warrants replacement”;

- age alone,
- age coupled with level of performance, or
- performance only
- usefulness (is the apparatus necessary)

In general, the apparatus of Moore County was found to be on varied type of service/maintenance program. File information found indicates the maintenance is conducted and appropriate records are maintained in file.

Some departments indicated that the office of the State Fire Marshal/Department of Insurance (ISO) reports found that annual fire pump tests were not meeting their requirements and that there was insufficient equipment. It was confirmed that annual tests are not being conducted in all departments. It is recommended that fire pumps and the aerial device be inspected/tested annually. Hose and ground ladder testing should be conducted annually as well, and every other year in the worst case. When deficiencies or conditions warranting attention are found, annual testing is imperative.

To assure the departments can maintain currency with ISO required equipment expectations, copies of documents indicating ISO required equipment and equivalencies will be provided in report supplements. The companies should develop a computer database to manage vehicle maintenance information for apparatus to provide an easy method of identifying expense by unit and purpose to assist in budgeting and replacement processes. A CD will be provided for each agency, under separate cover, to achieve this.

The following data reflects details provided to the project team as of January 2013.

### ABERDEEN FIRE/RESCUE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2009	E-One Typhoon	412	1250	1000	1000	Good
1998	HME/Smeal	411	1250	1000	1000	Good
1983	Pierce	414	1000	0	1000	Fair
	Aerial Ladder	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
1991	Pierce Lance 1991 55'	L-41	1500	1000	400	Good
	Brush	Vehicle ID#	Pump GPM		Tank Size	
1999	Ford F-250 4x4	418	250		250	Good
	Rescue	Vehicle ID#	Generator			
2003	International EVI	405	8000			Good
2001	Freightliner Hackney	419	8000			Good
	Ambulance	Vehicle ID#				
1993	Ford F-350 4x4	402				Average
	QRV/Staff	Vehicle ID#				
2005	Chevrolet 2500 4x4	429				Good
2000	Ford F-150 4x4	P-41				Average
2007	Ford Explorer Chief 4x4	410				Good
2005	Ford Crown Victoria	41-A				Average
2002	Ford Explorer Inspector 4x4	Insp. 41				Average
2005	Ford Crown Victoria	Car 41				Average
	Boat	Vehicle ID#				
2004	14ft	BOAT 41				Excellent
1980	10ft	BOAT 41-2				Average
	Other	Vehicle ID#				
2000	Forest River Enclosed Trailer	TRL 41				Good

## CARTHAGE FIRE DEPARTMENT

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
1997	Seagrave	314	1250	1000	1000	Good
2007	Pierce Contender	312	1250	1000	1000	Excellent
1979	Chevrolet E-One	311	1000	0	1000	Average
2003	2003 E-One F-550	313	1000	0	300	Good
						Average
	Tanker	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
2003	Kenworth	316	1250	0	3000	Excellent
	Brush	Vehicle ID#	Pump GPM		Tank Size	
1986	Chevrolet 4x4	318	250		250	Average
2008	Ford F-550	317	250		250	Excellent
	Rescue	Vehicle ID#	Generator			
2008	Ferrara	319	25 KW PTO			Excellent
2004	Ford Super Duty Utility	329	2800 KVA			Average
	Ambulance	Vehicle ID#				
1996	AVE Traumahawk	302				Average
	QRV/Staff	Vehicle ID#				
2004	Ford Explorer	Car 31				Average
2005	Ford Explorer	309				Average
	Command Trailer	TRL 31				Average
	Boat	Vehicle ID#				
2002	Boat	31				Good

### CRAINS CREEK FIRE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2002	Pierce Enforcer	231	1250	1000	750	Good
1996	Freightliner/EEI	232	1250	1000	1000	Good
	<b>Tanker</b>	<b>Vehicle ID#</b>	<b>Pump GPM</b>	<b>Hose 5 inch</b>	<b>Tank Size</b>	
1994	Freightliner/Fouts Brothers	236	500	0	3000	
	<b>Brush</b>	<b>Vehicle ID#</b>	<b>Pump GPM</b>		<b>Tank Size</b>	
1962	Studebaker	235	250		1200	Good
2004	Ford Fouts Brothers	238	300		250	Good
	<b>Service</b>	<b>Vehicle ID#</b>	<b>Generator</b>			
1994	Ford E-350	239	4000Kw			
	<b>Ambulance</b>	<b>Vehicle ID#</b>				
1996	Ford (Not Used)					Poor
	<b>QRV/Staff</b>	<b>Vehicle ID#</b>				
1993	Chevrolet Suburban	Car 23				Average
1990	Chevrolet 1500	Pickup 23		[202,000 Miles]		Poor
	<b>Boat</b>	<b>Vehicle ID#</b>				
	Crestliner, Inc.	Boat 23				Average

### CRESTLINE FIRE DEPARTMENT

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2004	E-One Typhoon	724	1250	1000	1000	Good
1987	Ford Pierce	721	1250	1000	750	Average
1980	Ford Grumman Fire Cat	722	1000	0	1000	Fair
	<b>Brush</b>	<b>Vehicle ID#</b>	<b>Pump GPM</b>		<b>Tank Size</b>	
1986	Chevrolet 2500 4x4	727	250		250	Fair
2012	Ford F-350	728	250		200	Excellent
	<b>Service</b>	<b>Vehicle ID#</b>	<b>Generator</b>			
1988	Ford F-350	729	4.5 KW			Average



### CYPRESS POINTE FIRE/RESCUE – 21

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2003	Pierce Enforcer	214	1250	1000	1000	Good
1986	Pierce Ford F-8000	212	1000	0	750	Fair
	Tanker	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
1990	Semo Freightliner FL80	215	500 CAFS	0	1500	Average
1988	Pierce Custom	216	1000	400	2000	Average
				0		
	Brush	Vehicle ID#	Pump GPM		Tank Size	
2007	Ford F-550 Pheumax	217	100 CAFS		300	Good
1996	Dodge	218	150		150	Good
	Service	Vehicle ID#	Generator			
2001	HME Hackney Command	219	25kw			Good
	QRV/Staff	Vehicle ID#				
2006	Ford Crown Victoria	Car-20				Fair
2004	Chevrolet Tahoe	Car-21				Average
	Boat	Vehicle ID#				
	Crestline 11' Fiberglass	Boat 21				Average
	OMC 14 Aluminum	Boat-24				Average

### CYPRESS POINTE FIRE/RESCUE – 22

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2000	Pierce Quantum	221	1500	1000	1000	Good
1990	Pierce Custom	222	1250	1000	1000	Average
	Tanker	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
2010	Fouts Bros. Kenworth K300	226	500	0	2000	Excellent
	Brush	Vehicle ID#	Pump GPM		Tank Size	
2001	Ford F-350	228	150		225	Average
	Service	Vehicle ID#	Generator			
2006	Pierce Kenworth T370	229	25kw			Good
	QRV/Staff	Vehicle ID#				
2011	Ford F-150 Crew Cab	Car-22				Excellent

### CYPRESS POINTE FIRE/RESCUE – 24

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2006	Pierce Contender	243	1250	1000	1000	Good
	Tanker	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
2010	Fouts Bros. Kenworth K300	246	500	0	2000	Excellent
	Brush	Vehicle ID#	Pump GPM		Tank Size	
2000	Ford F-350 Pheumax CAFS	248	150 CAFS		150	Good
	Service	Vehicle ID#				
1979	Chevrolet Panel Van	249				Fair
	Vehicle QRV/Staff	Vehicle ID#				
1999	Chevrolet Tahoe	Car-24				Average

### EAGLE SPRINGS FIRE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2006	International E-One	621	1500	0	1000	Good
2000	International KME	622	1500	0	1000	Average
1989	Ford FMC	623	1250	0	1000	Fair
1989	Grumman Fire Cat	624	1250	600	1000	Fair
	<b>Brush</b>	<b>Vehicle ID#</b>	<b>Pump GPM</b>		<b>Tank Size</b>	
	Ford F-350 Slagles	628	250		250	Average
	<b>Service</b>	<b>Vehicle ID#</b>	<b>Generator</b>			
2000	GMC 4500 Box Van	629	5500			
	<b>QRV/Staff</b>	<b>Vehicle ID#</b>				
	International	TR-62		[300,00 miles]		Poor
	<b>Other</b>	<b>Vehicle ID#</b>				
	Trailer for Fundraising					

### EASTWOOD FIRE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2009	Pierce Contender	521	1250	800	1000	Excellent
1993	American App/Spartan	524	1250	200	1000	Average
	Tanker	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
2999	E-One Freightliner	526	750	400	1500	Excellent
	Brush	Vehicle ID#	Pump GPM		Tank Size	
2003	Chevrolet 2500	527	250		250	Good
	Service	Vehicle ID#	Generator			
1991	Chevrolet 3500	529	3 KVA			Average
	QRV/Staff	Vehicle ID#	Medical Equipment			
1998	Ford Crown Victoria	Car 52				Fair
	Boat	Vehicle ID#	Medical Equipment			
1995	Duro Boat	Boat 52				Good

### HIGHFALLS FIRE/RESCUE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2000	Kenworth Pierce	122	1250	0	1000	Good
2008	Sutphen	121	1500	0	1000	Good
	Tanker	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
2003	Sterling/Progress	125	1250	0	4000	Good
	Brush	Vehicle ID#	Pump GPM		Tank Size	
1999	Ford F-350	127	250		250	Average
1969	Kaiser Jeep 6 x 6	128	250		600	Fair
	Ambulance	Vehicle ID#				
2002	Ford F-450	129				Good
	Vehicle QRV/Staff	Vehicle ID#				
1994	Dodge 2500 4x4	P-12				Fair

### PINEBLUFF FIRE DEPARTMTNT

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
1990	KME	711	1250	800	1000	Average
1994	KME	712	1250	1000	1000	Average
2010	E-ONE	713	1250	1000	1000	Excellent
	Tanker	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
2004	Rosenabauer	715	500	0	1500	Good
	Brush	Vehicle ID#	Pump GPM		Tank Size	
2008	Ford F-250 4x4	717	250		250	Good
	Vehicle Service	Vehicle ID#				
1980	Chevrolet	719				Fair



### PINEHURST FIRE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2009	KME	924	1500	1000	1000	Excellent
1992	KME	914	1500	1000	1000	Fair
2001	KME	913	1250	1000	1000	Good
1998	E-ONE	923	1250	1000	1000	Good
	Brush	Vehicle ID#	Pump GPM		Tank Size	
1992	Ford F-350	928	250		250	Fair
2006	Ford F-450	918	300		250	Excellent
	Rescue	Vehicle ID#	Generator			
1991	Ford F-650 Hackney	919	5000			Good
	QRV/Staff	Vehicle ID#				
1992	Chevrolet Colorado	939				Excellent
2011	Chevrolet 2500	929				Excellent
2001	Chevrolet Blazer	910				Good
2004	Dodge Durango	91A/920				Excellent
2010	Chevrolet Tahoe	Batt 91/930				Excellent
2012	Chevrolet Tahoe	Chief				Excellent
	Boat	Vehicle ID#				
1978	Yazoo 14ft	Boat 91				

### ROBBINS FIRE DEPARTMENT

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2011	International KME	115	1500	0	1000	Excellent
1994	KME	111	1500	0	1000	Average
1999	Freightliner	112	1250	0	1000	Average
1989	Chevrolet	114	1250	0	1000	Average
	<b>Brush</b>	<b>Vehicle ID#</b>	<b>Pump GPM</b>		<b>Tank Size</b>	
1989	Chevrolet 2500	117	250		250	Average
1986	Ford F-250	118	250		250	Average
	<b>QRV/Staff</b>	<b>Vehicle ID#</b>				
2004	Ford F-350	119	Manpower Unit			Excellent
	<b>Other</b>	<b>Vehicle ID#</b>				
	Trailer		Fundraising			Good

### ROBBINS RESCUE

Year	Rescue	Vehicle ID#	Generator	Rating
2005	Ford F-650/Chiefs	105	10Kw	Good
	<b>Ambulance</b>	<b>Vehicle ID#</b>		
1997	E-350 Traumahawk	102		Good
	<b>QRV/Staff</b>	<b>Vehicle ID#</b>		
2010	Ford F-150	103		Excellent
1987	Chevrolet	104		Fair
	<b>Boat</b>	<b>Vehicle ID#</b>		
	14' John Boat	Boat 10		Fair

### SEVEN LAKES FIRE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
1996	Freightliner	632	1250	1000	1000	Excellent
1989	FMC	631	1250	1000	1000	Good
2002	Freightliner	634	1250	1000	1000	Excellent
	Tanker	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
2009	Kenworth	636	1250	0	3000	Excellent
	Brush	Vehicle ID#	Pump GPM		Tank Size	
2002	Ford F-350	637	250		250	Excellent
	Rescue	Vehicle ID#	Generator			
2002	Kenworth	639	8000		Portable	
					Air	
	QRV/Staff	Vehicle ID#				
2008	Ford F-250	TK-63				Excellent
2012	Ford F-150	PU-63				Excellent

### SEVEN LAKES EMS

Year	Ambulance	Vehicle ID#	Rating
2009	Chevrolet/Miller McCoy	691	Excellent
	QRV/Staff	Vehicle ID#	
2011	Ford F-250	699	Excellent
1993	Ford Crown Victoria	Car 69	Average

### SOUTHERN PINES FIRE/RESCUE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
1998	KME	811	1250	1075	1000	Fair
2012	Pierce Impel	812	1500	1000	1000	Excellent
2005	Ferrara	813	1500	1075	1000	Good
	Tanker	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
2010	Kenworth	816	500		3000	Excellent
	Aerial Ladder	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
2006	Pierce 105'	Ladder 81	2000	1000	400	Excellent
	Brush	Vehicle ID#	Pump GPM		Tank Size	
2002	Ford F-450	818	250		250	Good
	Rescue	Vehicle ID#	Generator			
1996	Freightliner	819	6000			Fair
	QRV/Staff	Vehicle ID#				
2013	Chevrolet 2500 HD	P-81				Excellent
2009	GMC Arcadia	810				Excellent
2008	Chevrolet Tahoe	81C				Good
2010	Chevrolet 1500	81B				Excellent
2009	GMC Traverse	81P				Excellent
2013	Chevrolet Tahoe	810				Excellent
2012	Chevy Suburban	829				Excellent
2004	Ford Crown Victoria	Car-81				Fair
	Other	Vehicle ID#				
	Trailer	TRL-81				Good

### WEST END FIRE/RESCUE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
1997	Freightliner	614	1250	1200	1000	Good
1988	Ford FMC	611	1250	0	1000	Average
1995	Freightliner	613	1250	1200	1000	Average
	<b>Brush</b>	<b>Vehicle ID#</b>	<b>Pump GPM</b>		<b>Tank Size</b>	
1970	Kaiser Jeep	617	250		500	Average
1967	Jeep	618-2	250		250	Average
1995	Chevrolet 2500	P-61	250		250	Good
	<b>Rescue</b>	<b>Vehicle ID#</b>	<b>Generator</b>			
2004	Spartan	605	8000			Good
1992	Ford F-350	602				Average
	<b>Ambulance</b>	<b>Vehicle ID#</b>				
1996	Ford E-350	601				Good
	<b>Boat</b>	<b>Vehicle ID#</b>				
1998	Boat 61					Good

### WEST END - FOXFIRE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
1994	Freightliner	612	1500	0	1000	Average
	<b>Tanker</b>	<b>Vehicle ID#</b>	<b>Pump GPM</b>	<b>Hose 5 inch</b>	<b>Tank Size</b>	
1981	Ford FMC	615	1000	0	1000	Average
	<b>Brush</b>	<b>Vehicle ID#</b>	<b>Pump GPM</b>		<b>Tank Size</b>	
1962	Dodge	618	250		250	Fair
	<b>QRV/Staff</b>	<b>Vehicle ID#</b>				
2007	Ford Crown Victoria	603				Good



### WESTMOORE FIRE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
1997	International KME	141	1250	0	1250	Good
1990	International FMC	144	1250	0	1000	Good
	Tanker	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
2006	International KME	145	750	0	2000	Excellent
	Brush	Vehicle ID#	Pump GPM		Tank Size	
2008	Sterling Anchor Richey	147	350		250	Excellent
2002	Ford F-350	148	250		250	Good

### WHISPERING PINES FIRE/FIRE

Year	Engine	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	Rating
2012	Toyne/Spartan	511	1500	1000	1000	Excellent
1998	GMC Kodiak/Ferrara	512	1250	1000	1000	Good
	Tanker	Vehicle ID#	Pump GPM	Hose 5 inch	Tank Size	
2002	Kenworth/Fouts	516	500	0	3000	Good
	Brush	Vehicle ID#	Pump GPM		Tank Size	
2006	Ford F-550	518	250		250	Excellent
	Rescue	Vehicle ID#	Generator			
2004	Chevrolet Kodiak	505	8000			Good
	QRV/Staff	Vehicle ID#				
2000	Ford Excursion	509				Good
1999	Ford F-250 4x4	519				Fair

There is no “long term” purchasing plan/projection in place within the county. The project team did develop a “hypothetical schedule” to assist in long term planning and financial projections (based on what Moore County may need for fire apparatus).

**SUGGESTED CONSIDERATION FOR  
APPARATUS ALLOCATION PER DEPARTMENT  
(based on risks posed, NCOSFM requirements and ability to staff,  
plus expanded use of mutual aid)**

DEPARTMENT	PUMPER	RESCUE PUMPER	AERIAL	TANKER	BRUSH	HEAVY RESCUE	CAR/ OTHER
Aberdeen F&R – Station 41	1	1	1	-	1	1	2
Carthage F&R – Station 31	1	1	1	1	1	-	1
New Station	1 (Midi)	-	-	1	1	-	-
Cypress Point F&R– Station 21	-	1	1	1	1	-	-
Cypress Point F&R – Station 22	-	1	-	1	1	-	1
Cypress Point F&R – Station 24	1	1	-	1	1	1	2
Crains Creek VFD Station 23	-	1	-	1	1	-	1
Crestline VFD Station 72	-	1	-	1	1	-	1
Eagle Springs VFD Station 62	-	1	-	1	1	-	1
Eastwood VFD - Station 52	-	1	-	1	1	-	1
Highfalls F&R – Station 12	1	1	-	1	1	-	1
Pinebluff FD - Station 71	-	1	-	1	1	-	1
Pinehurst FD - Station 91	1	-	1	-	1	1	6
Pinehurst FD - Station 92	1	1	-	-	1	-	-
Robbins FD - Station 11	2	1	-	1	1	1	1
Robbins Rescue Squad – Station 10	-	-	-	-	-	-	2
Seven Lakes EMS - Station 69	-	-	-	-	-	-	2
Seven Lakes VFD - Station 63	1	1	-	1	1	-	2 (air unit)
Southern Pines F&R Dept – Station 81	1	1	1	1	-	1	2
Southern Pines F&R – New Station	-	1	-	-	1	-	1
West End F&R – Station 61	1	1	-	1	1	1	1
West End F&R – Station 61 Foxfire	1	-	-	1	1	-	1
Westmoore VFD - Station 14	2	1	-	1	1	-	1
Whispering Pines FD - Station 51	-	1	-	1	1	-	1

This represents changes to current apparatus in most stations.

## **PURCHASE PLAN EXAMPLE**

(standard specification vehicle purchased from group purchasing program)

- 1 pumper each year, estimated at \$400,000 in 2013
- 1 rescue pumper every other year at \$425,000 in 2013
- 1 tanker every other year, estimated at \$250,000 in 2013
- 1 brush truck every other year, estimated at \$140,000 in 2013
- 1 aerial every 3 years, estimated at \$750,000 in 2013
- 1 heavy rescue every 6 years, estimated at \$600,000 in 2013
- Three (3) small vehicles each year, estimated at \$150,000 in 2013

## **RECOMMENDATION (as noted in the Executive Summary)**

13-10 In order to provide for improving upon current NCOSFM deficiencies, assuring equipment flexibility in all areas of the county, and to enhance overall service delivery, quint-style aerial ladders (75 feet in length, with at least 1000 GPM pumping capacity and 300 gallon water tanks) should be considered for:

- Cypress Pointe
- Carthage
- Pinehurst

Quality used apparatus may be obtained at a significant discount and fulfill this recommendation.

NOTE: This recommendation promotes the idea of regionalized use of aerials. Ladder company operations provided at structure fires is the goal of this as well as providing tools, which in the big picture, help more communities manage insurance costs. The long term goal is to modify the tax rate but lower insurance rates while enhancing coverage regionally.

## VEHICLE ASSESSMENT (conducted every 3 years)

Unit # \_\_\_\_\_ Date \_\_\_\_\_

Vehicle \_\_\_\_\_ VIN \_\_\_\_\_

<u>Vehicle Component</u>	<u>Rating*</u>	<u>Adversely Affects State Inspection</u>
Engine	_____	<input type="checkbox"/>
Chassis	_____	<input type="checkbox"/>
Transmission	_____	<input type="checkbox"/>
Axels	_____	<input type="checkbox"/>
Electrical	_____	<input type="checkbox"/>
Pump	_____	<input type="checkbox"/>
Tank	_____	<input type="checkbox"/>
Steering	_____	<input type="checkbox"/>
Body	_____	<input type="checkbox"/>
Aerial Device	_____	<input type="checkbox"/>
Ability to access parts & readily repair vehicle	_____	

Comments \_\_\_\_\_

Projected Life \_\_\_\_\_ Years Signed \_\_\_\_\_ EVT

\*Rating Definition:    1 = works well, no problems  
                                  2 = any problems resolved by routine maintenance  
                                  3 = problem is manageable  
                                  4 = major repair required in next 12 months, costing over \$5,000  
                                  5 = not functional

## **Risk Analysis – Target Hazards**

Moore County was found to be no different than any other county in America, when it comes to a discussion of its nature – meaning the county is constantly changing. Buildings are constantly being built, traffic is constantly moving, commerce continues to occur, and people are born and die. As a result, risk changes and the approach to managing those risks must change with them.

Emergency Service Organizations (ESOs) must expand their use of fundamental assessment and planning efforts to assure they can meet further demands. This is defined as the process used to identify the community's fire protection and other emergency service needs in order to identify potential goals and objectives. All agencies should have a basic source of data and information in order to logically and rationally define the organization's mission. The end result of the process is to establish a long-range general strategy of the operation of the system. You can achieve this goal by:

1. Documenting characteristics by collecting historical data and instituting a process by which risks are defined and potential organizational goals and objectives are established.
2. The organization can then assess the nature and magnitude of the hazards within its jurisdiction, with each significant event categorized and listed, to permit future analysis and study in determining standards of coverage and related services.
3. The organization next assesses the nature and magnitude of other hazards and risks within its jurisdiction and identifies appropriate strategies, methods of operation, and resource allocation required to mitigate potential emergencies.
4. Finally, the result is a "strategic or other form of long term (typically three to five years into the future) planning process that, along with a budget, is guiding the activities of the organization.
5. The plan is then submitted to the appropriate authority having jurisdiction for review and implementation.

The coordination of these actions creates a plan

A basic risk analysis was conducted of the county. The areas were found to be quite diverse in hazards and thus associated risk. Typically, an area is evaluated based on the following factors:

- Exposures/occupancy (e.g. manufacturing, residential)
- Fire response experience
- Water Supply deficiency
- High Life Hazards (e.g. nursing homes, schools, conflagration potential, high population density).

In general, the risks are considered to be routine involving single and multi-family dwellings, businesses, light industrial, farms, and educational facilities.



A partial inventory of the target hazards/risk based locations, in each fire district were discussed with each department. Those target hazard types identified/provided to the Project Team are captured in this section.

County-wide, there are several key points identified as a result of this portion of the analysis.

1. While hazards are not considered “unique”, they are hazards and risks that require appropriate types of response, equipment and performance capability in order to adequately manage the risk posed. This means, that staffing, fire apparatus, specialized equipment in some cases, and water supply is necessary and must be provided in a timely fashion if there is an expectation of minimal damage to the risk.
2. There is a limited level of built in fire protection – fire detection/alarm, and fire suppression – which results in fires of greater size before detection, which then results in greater damage and more reliance upon manual fire suppression actions (fire department) which requires more water supply.
3. Given the significant rural portions of the county, and limited municipal water supply to many areas, this creates a greater emphasis on the need for provision of water at fire scenes by water tankers/tenders. These operations require time to establish, which is in direct relation to fire growth; that is the longer it takes to get water onto the fire in the proper fashion, the greater the size of the fire.
4. Response to false or malfunctioning alarms creates a drain on manpower, as well as unnecessary wear and tear on fire apparatus and associated expenses.

**In summary, when a fire occurs, there must be a sufficient amount of water applied with the right type of equipment and staff to actually suppress the fire. If there is no early warning (e.g. smoke alarm) or early suppression efforts (e.g. automatic fire sprinklers), the application of water by the fire department is critical in quick fashion to manage any loss. Without early detection, most fires will achieve flashover (actual fire involvement) of the structure and the efforts of the fire department, while admirable, typically result in partial saving of the structure at best.**

## Typical Target Hazards in Moore County



Carolina Inn



Open Land



Farms



Airport



Hospital



Nursing Homes/Skilled Care Facility



Manufactured housing



Multi-Family Dwellings



Single Family Dwelling  
less than 2,500 square feet



Single Family Dwelling  
more than 2,500 square feet



Manufacturing



Warehousing



Hazardous Materials Sites



Railway Hazards





Vacant Buildings



Food Processing



Highway Incidents & Hazards



Churches

NOTE: For Purposes of this project, Target Hazards were evaluated/classified per the following criteria:

**ASSEMBLY OCCUPANCY WITH AN OCCUPANCY LOAD OF 100 OR MORE**

The use of a building or structure for the gathering together of persons for purposes such as civic, social, or religious functions, recreation, food, or drink consumption or awaiting transportation. (e.g. night clubs, banquet halls, churches, community halls, areas, indoor basketball courts, and indoor skating rinks.

**EDUCATIONAL OCCUPANCY ALL SCHOOLS & DAYCARES WITH AN OCCUPANCY LOAD OF 20 OR MORE**

The use of a building by 20 or more persons at any one time for educational purposes through the 12<sup>th</sup> grade. The use of a building or structure for the education or supervision of more than 20 Children over the age of 2 ½ years of age. (e.g. all schools, and any Daycare with 20 or more kids)

**FACTORY INDUSTRIAL OCCUPANCY ANY MANUFACTURING FACILITY OVER 75,000 SQUARE FEET.**

The use of a building or structure for assembling, disassembling, fabricating, finishing, manufacturing, packaging, repair, or processing operation. (e.g. bakeries, dry cleaners, machine shop, metal fabrication)

## INSTITUTIONAL OCCUPANCY WITH AN OCCUPANCY LOAD OF 20 OR MORE AND ALL ACUTE CARE FACILITIES, HOSPITALS, NURSING HOMES, AND ASSISTED LIVING FACILITIES.

The use of a building or structure in which people having physical limitations because of health or age are harbored for medical treatment or other care or treatment, or in which people are detained for penal or correctional purposes in which the liberty of the occupants is restricted. (e.g. group homes, urgent care, hospitals, jail, nursing homes, and assisted living).

## MERCANTILE OCCUPANCY (50,000 SQUARE FEET OR MORE).

The use of a building or structure for the display and sale of merchandise and involves stock of goods, wares or merchandise incidental to such purposes and accessible to the public, (e.g. Wal-Mart, Drug Store, Grocery Store.)

## STORAGE OCCUPANCY (100,000 SQUARE FEET OR MORE).

The use of a building or structure for storage that is not classified as a hazardous occupancy. (e.g. Backform, Pods, any warehouse that does not produce the product, just stores it.)

## HAZARDOUS AND SPECIAL OCCUPANCY (ALL SIZES)

The use of a building or structure that involves the manufacturing, processing, generation or storage of materials that constitutes a physical or health hazard.

## SQUARE FOOTAGE BREAKDOWN

- 50,000 square feet = 225' x 225'
- 75,000 square feet = 275' x 275'
- 100,000 square feet = 325' x 325'

## **RECOMMENDATION (as noted in executive summary)**

- 13-11 Implement a permit requirement for all new/upgraded residential fire alarm systems in the county similar to that for commercial structures. All fire alarm systems would require a permit to be UL certified (UL certificate to be provided to the county) to ensure a robust alarm system is installed with minimal possibilities for malfunction/false activations and permit filing would require providing emergency contact information. Plans for locations of detectors, etc. would be reviewed by a knowledgeable county official (Fire Marshal's Office) who can assure placement would not facilitate false alarms (e.g. smoke detectors near showers or kitchens). A county official should inspect final installation to confirm appropriate locations for detectors for effectiveness and minimal false alarms. A related fee should be implemented to cover related staff costs.
- 13-12 Continued effort should be expended on development, revision, and distribution to automatic aid agencies of pre-emergency plans for target hazards in local agency districts.



## Water Supply

Water supply, for purposes of this project is defined in three components:

1. **Fire Flow Required** is the first, water supply component, and is as the amount of water necessary to suppress a fire in a building and is measured in gallons per minute (gpm).
2. **Available Water Supply** is the second component and refers to the amount of water available to suppress fire from a fire hydrant, at a “dry hydrant/static water source site”, or water available from water tender units (tank trucks). This too, is measured in gallons per minute (gpm).
3. **Water Supply Deficiency** is the difference in the water required to suppress the fire and the water available to suppress the fire. This is also measured in gallons per minute (gpm).

What is important to understand as noted earlier is that water is THE primary tool used to suppress fires and there must be a sufficient amount of water applied with the right type of equipment and staff to actually suppress the fire. If there is no early warning (e.g. smoke detectors) or early suppression efforts (e.g. automatic fire sprinklers), the application of water by the fire department is critical in quick fashion to manage any loss. Without early detection, most fires will achieve flashover (actual fire involvement) of the structure and the efforts of the fire department, while admirable, typically result in partial saving of the structure at best.

Water supply for the county was evaluated in the following fashion.

- First a review was conducted of all available NCSFM Insurance Rating Reports.
- Next, a review of water supply information provided by Moore County Officials was provided.
- A discussion was held with each Fire Department regarding
  - Target Hazards in first due response area
  - Water supply necessary to manage a fire incident
  - Ability to provide the defined needed water supply
  - Methods to provide for water supply needed but not readily available
  - Review of water supply methods used by each fire department
- Review of county-wide tanker task force program under development

When comparing the risks identified by the fire departments, the related water supply demand for those risks, the water available for fire protection, and the mobile water supply capability, it was determined that many areas of the county lack sufficient water supply to adequately control fires which might be anticipated based on the construction, occupancy, fixed fire protection, and exposure of the risk.

Based on the above, the Project Team identified the following areas for concern, action and follow-up.

Inconsistent North Carolina, Insurance related ratings (NC-DOI(ISO)) currently exist in the various fire districts across the County. According to documentation provided, fire district ratings include – split 4/9E, split 5/9E, split 6/9E, split 7/9E, split 8/9E, split 6/9S. The first number in a split rating indicates the rating of properties 1000 feet or less from a hydrant, while

the second number in a split rating indicates the rating of properties greater than 1000 feet from a hydrant. For comparison, a city maybe credited with a straight NC-DOI(ISO) Class 3 rating. Note that without any demonstration/documentation otherwise, NC-DOI(ISO) credits standard hydrants within 1000 feet from a building as follows:

- 1000 GPM for hydrants within 300 feet
- 670 GPM for 301 to 600 feet
- 250 GPM for 601 to 1000 feet

These flow rates are not based upon use of large diameter (4 or 5 inch diameter) supply hose. NC-DOI(ISO) will accept demonstrated tanker shuttles and large diameter hose lays as alternative water supplies, which has not yet been completed.

Current County tanker shuttle arrangements are reportedly only capable of flowing approximately 400-600 GPM. This is adequate for an initial attack, but does not support a continuous attack with large caliber streams. Current design of many tankers in the County is rear-dump design, necessitating apparatus backing up at incident scenes, requiring extra time.

This is not consistent availability of water supply county-wide, for firefighting purposes and for insurance rating purposes for new construction.

Not all engine companies in the County carry 5 inch diameter supply hose. Some carry 4 inch or 3 inch.

Fire departments are not getting full credit on NC-DOI(ISO) surveys for hydrant installations and inspections

One question that rose several times challenged the theory of buying/using tankers versus installing permanent water mains. There are two reasons tankers are recommended:

1. Water line extension is very costly and no significant expansions are planned in the foreseeable future.
2. Even if a waterline initiative were implemented this year the comprehensive installation of enough lines could not be achieved in a reasonable time and tankers would still be necessary.

### **Community Fireflow Requirements Summary\***

<b>Fire Department Evaluated</b>	<b>Gallons-per-Minute required</b>
Aberdeen Fire & Rescue	3000
Carthage Fire & Rescue	3500
Cypress Point Fire & Rescue	3500
Crains Creek Fire Department	Not Provided
Crestline Fire Department	Not Provided
Eagle Springs Fire Department	Not Provided
Eastwood Fire Department	2250
Highfalls Fire & Rescue	3500
Pinebluff Fire Department	Not Provided
Pinehurst Fire Department	3500
Robbins Fire Department	3500
Seven Lakes Fire Department	Not Provided
Southern Pines F&R Department	3500
West End Fire & Rescue	Not Provided
Westmoore Fire Department	3500
Whispering Pines Fire Department	Not Provided

\*per NCOSFM calculations

## Water Supply Considerations

To upgrade the ISO rating to a consistent number county-wide, or within an achievable distance from approved water supplies, the following recommendations apply:

- Conduct a water supply assessment for each target hazard in each fire district. This assessment should identify any gaps in water supply capability for joint planning by the fire districts and water department.
- Utilize the ISO Required Fire Flows for each target hazard, and determine the currently available water supply fire flows available for each target hazard.
- Develop a water supply strategy for each target hazard to maximize the available fire flow at the target hazard and document a demonstration of the same (tanker shuttle, hose lay exceeding 300 feet) for the insurance rating bureau. Documentation should include apparatus used (responding on 1<sup>st</sup> and 2<sup>nd</sup> alarm), manpower needed, and start and end time with flow in GPM achieved. The goal should be to meet or exceed the ISO Required Fire Flow for each identified target hazard. Representative demonstrations can be documented to avoid the need to conduct a demonstration at each target hazard. Example – conduct a tanker shuttle achieving a flow of 1000 GPM from a dry or wet hydrant capable of supplying this flow, 2 miles (or a realistic distance based upon actual distances of water supplies from target hazards) from the target hazard. Example – conduct a 2500 foot large diameter (5 inch) hose lay achieving a flow of 1000 GPM from a dry or wet hydrant capable of supplying this flow. Conduct drills on these evolutions to ensure all county fire departments are skilled in performing them.
- Identify water supply gaps where Available Fire Flow does not equal or exceed Required Fire Flow for target hazards. Identify static water sources (ponds, streams) in the gap areas that may be utilized for water supply, and obtain appropriate documented permissions and install dry hydrants supplied from those water supplies to an appropriate all-weather apparatus access location. Conduct documented flow-testing of the water supply points, and obtain 50-year drought certification of the water supply point - OR - as an alternative – install wet hydrants in the gap areas
- Consider use of an eductor water supply such as the Turbodraft<sup>TM</sup> (<http://www.turbodraft.net/>) in areas where access cannot be easily gained to nearby water sources. This allows apparatus to achieve up to 670 GPM at distances of up to 250 feet away from a water supply. Alternatives include portable or floating pumps although these devices are significantly heavier/bulkier.
- Standardize the fittings on all dry hydrants in the County to either 5 inch or 6 inch female NST (based upon input from County fire chiefs and current apparatus pumper suction sizes). This will eliminate the need for an adapter to connect to these hydrants.

Develop a standardized tanker design for new tankers for the County to support the capability to quickly and safely shuttle and nurse up to 1000 gallons per minute. Specifications should include:

- Tank size of 2000-3500 gallons. Size should be tempered by the narrow roads with limited or no shoulders in many areas of the County.
- Pump size of minimum 1000 gallons per minute to both nurse, and to achieve NC-DOI(ISO) rating credit for both the pump and tank. This is recommended to reduce the

need to maintain little used 1000 GPM pumpers as reserves for station pumpers, thus reducing operating costs. Tankers can and do serve as pumpers.

- Side dumps controlled from the vehicle cab, capable of dumping at least 1000 gallons per minute.

Note that the Carthage and Whispering Pines Fire Department tanker design is a good model, with the exception of needing a larger pump. Stations that may need a new tanker that should follow this general design.

All drop tank (porta-tank) sizes county-wide should be at least 2000 gallons, preferably 2500 or 3000 gallons to facilitate the 1000 gallon per minute flow capability.

All tanker fill connections for in-County tankers, to allow fill at a minimum of 1000 GPM.

Ensure that the County Tanker Task Force SOG is communicated to all Fire Departments in the County, and review the procedures at Chiefs' meetings. Ensure all Departments that could participate in tanker shuttle operations (either with a tanker or engine) drill in shuttle operations at least annually.

Ensure that all new development in the County has one of the following:

- Wet hydrant with a flow capability of 1000 GPM at 1000 feet or less from all structures. Dry hydrant within 2000' of all buildings in the development with a flow capability of 1000 GPM, accessible under all weather conditions within 10' of a fire pumper access, fed from a tank or basin or similar supply with a minimum capacity of 20,000 gallons at 50 year drought with documentation of same provided to the County/Municipality by a licensed professional engineer in the State of North Carolina. The Fire Departments should have input on new hydrant locations.

Actual total fire flow capability (from multiple water supplies where necessary) shall be determined by a water supply assessment.

All County dry hydrants that could be utilized in a fire should be flushed and flow tested twice annually.

All engine companies in the County should carry a minimum of 1000 feet of 5 inch supply hose.

Further explore the application of compressed air foam systems (CAFS) and Class A foam for use throughout the county. CAFS and Class A foam can provide quicker knockdown of many types of fires using less water than a water-only attack.

Ensure all fire hydrants have a 5 inch or larger barrel, and a 5 inch or larger foot valve. All hydrants should have a uniform size-operating nut, operate in a uniform direction and should be equipped with a pumper/steamer outlet. All hydrants should be inspected twice a year, the inspection should include operation and a test at standard pressure. Records should be kept for the inspections. Hydrants should be conspicuous, well located for use by a pumper, and in good condition.



## MOORE COUNTY FIRE STUDY WATER SUPPLY/NCOSFM RECS

The following specifically applies to apparatus and water supplies for the various fire districts in the County, including preplanning specific water supply strategies to improve, meet or exceed the required fire flows for specific areas/properties in each district. These are NCOSFM/NC-DOI(ISO) recommendations, not necessarily duplicated in the study.

### **Aberdeen Fire**

The Aberdeen district is in the South area of the County, and is ISO Class 4 within the town area, an ISO Class 5 within 5 miles of the station, and has a very small area of class 9E within 5-6 miles of the station.

Currently they have 3 pumpers, (1983, 1998 and 2009) all with 1000 gallon water tanks and 2 with 1000' of 5". They do not have a tanker, but would use mutual aid tankers and has Class 5 in those areas. ISO indicates they should have 3 engines and 1 reserve, and scored well on their last ISO rating for engines

Target hazards include commercial area, schools, churches, a DMV building, warehousing, a fuel oil/propane facility, and a Hampton Inn. As identified by ISO, water supply deficiencies exist several parts of this district, except a commercial building at Pee Dee and Blyther St. where 1500 GPM was needed and 1600 GPM was available, a commercial building at US 15-501 and Glasgow where 1250 GPM was needed and 2800 GPM was available, a commercial building at 40172 US 1 Hwy where 1250 GPM was needed and 2600 GPM was available, and a residence at Kennedy Circle and Batchelor Farm Road where 750 GPM was needed and 2600 GPM was available:

1. Residence at 1200 Paint Hill Rd, 500 GPM needed and 450 GPM available via calculated tanker relay. Work on improving the tanker shuttle.
2. Commercial building at 39898 Rosy Rd., 1250 GPM needed and 450 GPM available via calculated tanker relay. Work on improving the tanker shuttle.
3. Residence at 420 Log Cabin Lane, 1000 GPM needed and 450 GPM available via calculated tanker relay. Work on improving the tanker shuttle.
4. Commercial building at 1390 Bethesda Rd., 2000 GPM needed and 1500 GPM available. Use of LDH here in a long hose lay or a tanker shuttle could be used to other area hydrants.
5. Oil and Propane Facility US 1 & Roseland Rd., 2500 GPM needed and 800 GPM available. Use of LDH here in a long hose lay or a tanker shuttle could be used to other area hydrants.

### **Carthage Fire**

The Carthage district is in the North Center area of the County, and is ISO Class 6 within 5 miles of the fire station, class 9E within 5-6 miles of the station, and has a significant section of Class 10 area beyond 6 miles from the station, including at least 1 section of Class 10 that has hydrants. The ISO evaluation in October 2012 did not appear to take into account the 2003 tanker-pumper that Carthage owns, nor automatic aid apparatus.

The department has 4 pumpers (1979, 1997, 2003, 2007), Three have 1000 gallon water tanks and one has a 300 gallon tank. Two engines have 1000' of 5", one has 1000' of 2 1/2", and one has a small amount of 3" ("mini-pumper"). The 2003 tanker has a 3000 gallon water tank and a 1250 GPM pump. ISO says 5 engines are needed. Recommending to move the 2003 mini-pumper to a new station in the Northeast section of the County and not necessarily need to add more 5" at this time although the "mini-pumper" needs supply hose and 5" is recommended.

ISO indicates they need 5 engines in their district, but they lost points for distribution. Moving this mini-pumper may not only eliminate a good amount of "10" area, but assist in scoring points for distribution. Ultimately a 1000 GPM engine or greater should be included at that station.

As identified by ISO, water supply deficiencies exist in every part of this district, except a commercial building on Vass Carthage Road where 1000 GPM was needed and 1300 GPM was available, a large house at 5999 Breezy Point Road where 500 GPM was needed and 500 GPM was available, a commercial building at Monroe St. and McNeal where 1500 GPM was needed and 1800 GPM was available, an unknown location with "bays" where 3500 GPM was needed and 3900 GPM was available, a commercial property on Carriage Oaks Drive where 1250 GPM was needed and 1900 GPM was available, and a residence on 150 Village Lane where 500 GPM was needed and 2900 GPM was available:

1. 1495 McNeal St., 7000 GPM needed and 2800 GPM available. A tanker shuttle or long hose lay could be used to other area hydrants.
2. 3741 Hwy 15-501, 5000 GPM needed and 450 GPM available. A tanker shuttle or long hose lay could be used to other area hydrants.
3. School on Grady Road, 5000 GPM needed and 550 GPM available. A tanker shuttle or long hose lay could be used to other area hydrants.
4. School on Union Church Road, 4500 GPM needed and 550 GPM available. A tanker shuttle or long hose lay could be used to other area hydrants.
5. Monroe St. & McNeal, 5500 GPM needed and 1800 GPM available. A tanker shuttle or long hose lay could be used to other area hydrants.
6. Dead end on Gilliam McConnell Road, 3000 GPM needed and 550 GPM available. A tanker shuttle or long hose lay could be used to other area hydrants.
7. Summer Hill Church Road and Cook Road, 3000 GPM needed and 550 GPM available. A tanker shuttle or long hose lay could be used to other area hydrants.
8. Store on McReynold Road, 1500 GPM needed and 550 GPM available. A tanker shuttle or long hose lay could be used to other area hydrants.
9. Residence at 202 Buggy Drive, 750 GPM needed and 600 GPM available. A tanker shuttle or long hose lay could be used to other area hydrants.
10. Church, 329 Bethlehem Church Road, 1250 GPM needed and 750 GPM available via a calculated tanker relay. An additional tanker shuttle could be used, or conduct a shuttle to attempt to achieve a greater flow.
11. Chicken house at 549 Scott Road, 3000 GPM needed and 700 GPM available via a calculated tanker relay. Appears to be a pond available across Scott Road, arrange for access/use of this via long hose lay
12. Church, 632 McCrimmon Road, 2250 GPM needed and 650 GPM available via a calculated tanker relay. Appears to be a pond available across McCrimmon Road, arrange for access/use of this via long hose lay

13. Church, 2792 Old River Road, 1750 GPM needed and 600 GPM available via a calculated tanker relay. No immediate recommendations. Using larger tankers in a preplanned shuttle operation should be able to achieve at least a 700-800 GPM flow capability which could be added to the flow available in the hydranted area.

### **Crains Creek**

The Crains Creek district is in the far East section of the County, and their district is ISO Class 6 within 5 miles of the fire station (the majority of the district), with a few very small areas of class 9E (may have few structures) within 5-6 miles of the station.

Currently they have two pumpers, one with a 750 gallon tank (2002) and one with a 1000 gallon tank (1995). Both have 1000' of 5" supply hose. They also have one tanker with a 3000 gallon tank and a 500 GPM pump (1994). The only recommendation here is that when this tanker is replaced, they go with a 1000 GPM pump or greater and a 2000-3000 gallon tank. This station may be merged and possibly could go down to one pumper and one pumper-tanker. ISO indicates that two engines are needed, and both engines scored almost perfectly in the 2002 ISO review.

Most of the built-up areas of this district have hydrants, and the last ISO rating was 2002 although it was indicated that paperwork for an updated rating may be pending. All of the previous target hazards identified by ISO showed available flow by tanker shuttles of 300-500 GPM, and the new hydrants should show an improvement in the rating in this district. Target hazards were identified in 2002 as:

1. Marks Road at Munsons Chicken House, 2000 GPM needed
2. Flynn-McPherson Road Good Shepard, 1500 GPM needed
3. Lobella Road Chicken Farm, 2000 GPM needed
4. Watson Road Horse Barn, 2500 GPM needed
5. Lobella Rd Keith Mt. Pleasant Church, 1250 GPM needed
6. Residential Lakebay Rd @ district line, 750 GPM needed
7. Residential McGill Road, 750 GPM needed

### **Crestline Fire**

The Crestline district is in the Southeast quadrant of the County, and the Moore County portion of their district is ISO Class 7 within 5 miles of the fire station, with a very small area of class 9E within 5-6 miles of the station.

Currently they have three pumpers (2004, 1990, 1987) two with 1000 gallon water tanks and one with a 750 gallon water tank. They currently have no tanker. Two of their pumpers have 1000' of 5" hose, and one has 1000' of 4" hose. No action recommended at this time as plans to merge or change this station.

The project team was not provided specific ISO fireflows for this district, however most of the built-up area of the district in Moore County has hydrants, and mutual aid tankers are available. There are a number of target hazards, including a good-sized industrial facility (baby furniture manufacturing) across Highway 211 from the fire station. ISO scoring indicates that additional

work on water movement is needed for the target hazards.

### **Cypress Pointe (3 stations)**

The Cypress Pointe district is in the East section of the County, and their district is ISO Class 6 within 5 miles of the fire stations (the majority of the district), with a few small areas of class 9E within 5-6 miles of the stations and a few small areas of class 10 beyond 6 miles of the stations. The district is less than 1 ½ percentage points from a Class “5” and some work on the fire department would accomplish this as it will not only improve the fire department’s score, but also reduce the divergence reduction for the difference between the fire department score and the water supply score. An aerial ladder may allow the district to achieve this.

Currently they have four pumpers (1986, 1990, 2000, 2003, 2006) with 1000 gallon water tanks and one with a 750 gallon tank in it, and at least one with CAFS. They have 1000' of 5" hose on 4 of the 5 pumpers. They also have four tankers, three with 2000 gallon water tanks and 1 with a 1500 gallon water tank. The smaller tanker has a 500 GPM pump with CAFS. Two others have 500 GPM pumps and one with a 1000 GPM pump. This seems reasonable, and when replacing tankers in the future they should consider pumps of at least 1000 GPM. ISO indicates that eight engine companies are needed for distribution, although only three for the basic fire flow. Existing engines scored a perfect 100% rating for equipment, testing, etc.

Most of the built-upon portions of the district are provided with hydrants. As identified by ISO, water supply deficiencies exist in many parts of this district, except a commercial building on 2519 Hwy 24-27 where 2250 GPM was needed, and 3700 GPM was available, several commercial properties on US 1 Bus where 5000 GPM was needed and 7800 GPM was available, a commercial building at US 1 Bus and Camp Ester Road where 2000 GPM was needed and 3000 GPM was available, a residence on 322 Cypress Rd Lane where 750 GPM was needed and 750 GPM was available via calculated tanker relay, a residence at 185 Gilchrist Road where 500 GPM was needed and 650 GPM was available via calculated tanker relay, a residence on Ring Road where 750 GPM was needed and 1600 GPM was available, and a residence at 1660 Aiken Road where 1000 GPM was needed and 1500 GPM was available:

1. Commercial Building at Fancy Acres & Vass Carthage Rd., 3000 GPM needed and 2900 GPM was available. A LDH hose lay could be used to area hydrants to overcome flow limitations.
2. Holly Ridge Apartments, 5000 and 1750 GPM needed and 1300 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
3. Commercial Building at 2519 Hwy 24-27, 4000 GPM was needed and 3700 GPM was available. A LDH hose lay could be used to area hydrants to overcome flow limitations.
4. Commercial Building at 2316 Tractor La., 1500 GPM was needed and 700 GPM was available via a calculated tanker relay. A long hose lay and/or tanker shuttle could be used to other area hydrants.
5. Commercial Building at 255 Boys Camp Road, 2000 GPM was needed and 750 GPM was available via a calculated tanker relay. A long hose lay and/or tanker shuttle could be used to other area hydrants.
6. Commercial Building at 683 Sadler Family Road, 1750 GPM was needed and 1250 GPM was available via a water relay. A tanker shuttle could be used to other area hydrants.
7. Commercial Building at Grand Magnolia & Woodlake Blvd., 2250 GPM was needed and

2100 GPM was available. A LDH hose lay could be used to area hydrants to overcome flow limitations.

8. Commercial Building at 821 Lobelia Road, 2500 GPM was needed, and 600 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
9. Commercial Building at 1008 Stanton Hill Dr., 1750 GPM was needed and 500 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.

### **Eagle Springs Fire**

The Eagle Springs district in the West end of the County, and is ISO Class 8 within 5 miles of the fire station (most of the district), class 9E within 5-6 miles of the station, and has some Class 10 areas that are beyond 6 miles from the station.

Currently they have four pumpers (2006, 2000, 1989, 1989) each with 1000 gallon water tanks. Recommending to cut back to one engine and one tanker pumper with a 2000-3000 gallon tank in it and a minimum 1000 GPM pump. Maybe keep one engine as a reserve. Only one engine currently has 5" hose - "524" and they report 600'. It was moved there as that is the "mutual aid" engine (1989). Other engines carry 3". Recommend minimum 1000' of 5" supply hose on each engine.

Do not have specific ISO fireflows for this district. Target hazards include a Perdue facility (hatchery and feed mill), a now closed state correctional facility with multiple buildings, a bed and breakfast, the equestrian village development, and several others. Fireflows are estimated at least at 2500 GPM for at least two of these. There are a number of static water points that are well cataloged in the district.

### **Eastwood Fire**

The Eastwood district in the Center of the County, and is ISO Class 7 within 5 miles of the fire station (most of the district), and class 9E within 5-6 miles of the station. The district is just over 1 percentage point from the Class "6" rating, and 1 potential area of improvement is credit for automatic aid companies and training/preplanning, along with good testing and recordkeeping of water supply points and improving/documenting tanker shuttles.

Currently they have two pumpers (2009 and 1993) each with 1000 gallon water tanks and 800' and 200' of 5" hose. They also have a 1999 tanker with a 1500 gallon water tank and a 750 GPM pump and 400' of 5" hose. Recommend minimum of 1000' of 5" on each engine, and when replaced, go to minimum 1000 GPM pump on tanker. ISO indicates they should have 3 engine companies and 2 additional engines for distribution. Existing engines scored very well for equipment and testing, however.

Some of the built-upon portions of the district are provided with hydrants, and there are several other water supply points in the district. As identified by ISO, water supply deficiencies exist in almost all of this district, except a residence at 120 Wood River Drive where 750 GPM was needed and 1250 GPM was available via a calculated hose relay:

1. Church across from fire station at Maplewood La. and Hwy 73, 3000 GPM needed and



850 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.

2. Harley Davidson 8040 US Hwy 15/501, 3000 GPM needed and 1000 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
3. Stone/Antique Store 7540 US Hwy 15/501, 2500 GPM needed and 1100 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
4. Church 1580 Carthage Road, 2000 GPM needed and 450 GPM was available via a calculated tanker relay. Improve the tanker shuttle for greater credit.
5. Blacksmith Shop 3619 Murdocksville Road, 2250 GPM needed and 450 GPM was available via a calculated tanker relay. Improve the tanker shuttle for greater credit.
6. Body Shop 450 Doubs Chapel Road, 2250 GPM needed and 400 GPM was available via a calculated tanker relay. Improve the tanker shuttle for greater credit.
7. Residence, 6644 Beulah Hill Church Road, 500 GPM needed and 450 GPM was available via a calculated tanker relay. Improve the tanker shuttle for greater credit.

### **Highfalls Fire**

The Highfalls district is in the North Center area of the County, and is ISO Class 9 within 6 miles of the station, and has large sections of Class 10 area beyond 6 miles from the station in both the East and West end of their district.

Currently they have two pumpers (2000 and 2008) each with 1000 gallon water tanks, and 600' of 3" hose. They have a 2003 pumper-tanker with a 4000 gallon water tank and a 1250 GPM pump. Vehicle arrangement is good, recommend minimum 1000' of 5" supply hose on each engine.

The project team was not provided specific ISO fireflows for this district as ISO will not conduct a more detailed rating as maintenance records were not available when they came to conduct the last rating in 2010. Target hazards include the Highfalls School, the Highfalls Oil Co. on Route 22, and Deep River Mills Coated Fabrics that uses hazardous materials along Route 22 at the Deep River. Fireflows are estimated at least at 3000 GPM for at least 2 of these. There are a number of static water points that are marked/cataloged in the district.

### **Pinebluff Fire**

The Pinebluff district is in the South area of the County, and is ISO Class 6 within 1000' of a hydrant, class 9E within 6 miles of the station and beyond 1000' from a hydrant, and has a large section of Class 10 area in the West end and several other very small areas of Class 10 beyond 6 miles from the station. This district has the opportunity to conduct water shuttle demonstrations to expand the Class 6 to all of their district within 6 miles from the station.

Currently they have 3 pumpers (1990, 1994, and 2010) each with 1000 gallon water tanks and two with 1000' of 5" hose and 1 with 800' of 5" hose. They also have a Tanker (2004) that has a 1500 gallon water tank and a 500 GPM pump. Recommend upgrading 3rd engine to have minimum 1000' of 5" hose, and when tanker is replaced to go to 1000 GPM or greater.

The project team was no provided specific ISO fireflows for this district. Target hazards include

several water plants and a fabric facility, along with several others. Target hazards reportedly all have 1000 GPM or greater flow hydrants. Fireflows are estimated at least at 2500 GPM. Most of the built-upon areas are provided with hydrants, and there are no other static water points in the district.

## **Pinehurst Fire**

The Pinehurst district is in the Central area of the County, and is ISO Class 4 within 5 miles of the station, class 9E within 5-6 miles of the station, and has several small areas of Class 10 beyond 6 miles from the station. This district has the opportunity to conduct water shuttle demonstrations to expand the Class 6 to all of their district within 6 miles from the station.

Currently they have four pumpers (1992, 1993, 2001, 2009), three of the four with CAFS, all with 1000 gallon water tanks and 1000' of 5" hose. Non-CAFS engine will be replaced in 2013. Get mutual aid tanker(s) for the small part of their area that is Class 9. ISO indicates Pinehurst should have three pumpers and one reserve; they do and only lost 0.35 points out of 16 for their engine companies in the last ISO review which is very good.

Most of the built-upon portions of the district are provided with hydrants, and there are several other water supply points in the district. As identified by ISO, water supply deficiencies exist in a number of areas of this district, except a commercial building at 35 Memorial & Page 1-208 where 1750 GPM was needed and 2400 GPM was available, a residence at Kelly & Dundee 2-004 where 500 GPM was needed and 3300 GPM was available, a commercial building at Linden Rd E. of Chicken Plant Rd. 4-83 where 2500 GPM was needed and 3100 GPM was available, a commercial building at Main St. N. of Emory Smith Cir. 5-17 where 1000 GPM was needed and 2400 GPM was available, a residence at Americus and Baircliff Ct. 5-48 where 750 GPM was needed and 750 GPM was available, a commercial building at 15 Parker Lane 6-87 where 2000 GPM was needed and 3100 GPM was available, a commercial building at Augusta National Dr. @ Dead End where 1250 GPM was needed and 2200 GPM was available, a commercial building at 25 Boat House Rd 6-185 where 1750 GPM was needed and 2200 GPM was available, a residence at 85 Quail Hollow Dr 6-003 where 500 GPM was needed and 2500 GPM was available, a commercial building at Diamond Head Rod and Denichilo Rd 3-247 where 750 GPM was needed and 4200 GPM was available, and a commercial building at 5 Pine Valley Rd 3-354 where 1500 GPM was needed and 2300 GPM was available:

1. 35 Memorial & Page 1-208, 5000 GPM needed and 2400 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
2. Midland Road & Thomas Rd. 2-025, 5000 GPM needed and 1700 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
3. Avimore Dr. & Avimore La., 4000 and 3000 GPM needed and 950 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
4. Kelly & Dundee 2-004, 4500 and 3500 GPM needed and 3300 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
5. McMichael & Barons Dr. 4-33, 2250 GPM needed and 1800 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
6. Douglas St. 5-12, 2500 GPM needed and 1100 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.

7. Magnolia @ Holly Inn 2-57, 3000 GPM needed and 2000 GPM was available. A long hose lay and/or tanker shuttle could be used to other area hydrants.

## **Robbins Fire**

The Robbins district is in the North West/Center area of the County, and is ISO Class 6 within 5 miles of the fire station, class 9E within 5-6 miles of the station, and has a section of Class 10 area beyond 6 miles from the station in both the North and South end of their district.

Currently they have four pumpers (2011, 1999, 1994, 1987) each with 1000 gallon water tanks. ISO says they need three plus a reserve. Recommend they drop 1 pumper and get a pumper-tanker with a 2000-3000 gallon water tank in it and minimum 1000 GPM pump. Only around 1/3 of their district has hydrants and in at least some locations the hydrant system may be weak. No 5" hose, it was removed from the trucks. Should carry minimum 1000' 5" on each engine. ISO says they should have 3 pumpers and 1 reserve, credited them for 3 in the last evaluation and they scored generally well and would have done much better if they had pump testing records.

As identified by ISO, water supply deficiencies exist in a number of areas of this district, except 2 residences (Plank Road and 413 Virginia Street), a commercial building on Highway 705N where 2500 GPM was needed, and 2700 GPM was available, a commercial building on E. South Broad St. where 2250 GPM was needed and 3900 GPM was available, and a commercial building at 4912 Highway 705 where 1750 GPM was needed and 1900 GPM was available:

1. Plank Road, 4500 GPM needed and 1700 GPM available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
2. Unknown location, 4500 GPM and 2000 GPM needed and 1800 GPM available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
3. Robbins Elementary, Rushwood Road, 5000 GPM needed and 150 GPM available. The hydrants here need further evaluation for flow, and a long hose lay and/or tanker shuttle could be used to other area hydrants.
4. Church, 1632 Spies Road, 1250 GPM needed and 650 GPM available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
5. Commercial Building, 3456 Highway 705, 1250 GPM needed and 750 GPM available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
6. Commercial Building, Hemp Road at Currie Baptist Road, 3000 GPM needed and 1100 GPM available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
7. Commercial Building, 7559 Highway 705, 3500 GPM needed and 550 GPM available via a calculated tanker relay. An additional tanker shuttle might be utilized here.
8. Commercial Building, 400 Spies Road, 1500 GPM needed and 500 GPM available via a calculated tanker relay. An additional tanker shuttle might be utilized here.
9. Commercial Building, 1275 Gurney Road, 1000 GPM needed and 500 GPM available via a calculated tanker relay. An additional tanker shuttle might be utilized here.
10. Residence, 5999 Hussey Road, 500 GPM needed and 450 GPM available via a calculated tanker relay. An improved tanker shuttle might be utilized here.

## **Seven Lakes Fire**

The Seven Lakes district is in the West Center area of the County, and is ISO Class 6 within 5 miles of the fire station, a relatively small area of class 9E within 5-6 miles of the station, and a relatively small section of Class 10 area beyond 6 miles from the station in the North end of their district.

Currently they have three pumpers (1989, 1996, 2002) with 1000 gallon water tanks, and 1000' of 5" hose on each. They also have a 2009 tanker with a 3000 gallon water tank and a 1250 GPM pump. This is a good arrangement. ISO says they need three pumpers, and they generally scored well for engines and got credit for one automatic aid engine.

The project team was not provided specific ISO fireflows for this district. However most of the built-up area of the district has hydrants. There are a number of target hazards, including one or more country clubs, and some commercial/industrial occupancies. ISO scoring indicates that additional work on water movement is needed for the target hazards. The ISO 6 district-wide shows that the department has been successful in exhibiting the ability to move water outside of their hydranted area.

## **Southern Pines Fire**

The Southern Pines district is in the Southeast portion of the County, and is ISO Class 4 in the "town" area, Class 6 outside that area but within 5 miles of the fire station, class 9E in a small portion of the district that is within 5-6 miles of the station, and has a small amount of Class 10 areas that are beyond 6 miles from the station in the East end of the district.

Currently they have three pumpers (1998, 2005, 2012) with 1000 gallon water tanks and at least 1000' of 5" hose. They also have a 2010 tanker with a 3000 gallon water tank and a 500 GPM pump. This arrangement is good. ISO indicates three engine companies are needed and scored very well in this area of the survey.

There are a number of target hazards in this district, including Ingersoll Rand, a research facility, a community college and a retirement home. There are hydrants in most of the built-upon areas of the district, and 13 static water points identified and cataloged by the fire department. As identified by ISO, water supply deficiencies exist in a number of areas of this district, except a commercial building on SW Broad and W Pennsylvania where 2250 GPM was needed, and 2600 GPM was available, a commercial building at 175 Midland Road where 2000 GPM was needed and 5200 GPM was available, a commercial building at 325 S. Gaines St. where 1750 GPM was needed and 2400 GPM was available, a commercial building a 159 Beverly Lane where 1500 GPM was needed and 5300 GPM was available, a residence at 625 Fairway Dr. where 500 GPM was needed and 3400 GPM was available, a residence at 307 Bethes Haven Dr. where 750 GPM was needed and 1200 GPM was available, and a residence at 139 Myers Farm Dr. where 500 GPM was needed and 1400 GPM was available:

1. Commercial building at 280 Country Club Dr., 3500 GPM needed and 1200 GPM available. A LDH/long hose lay and/or tanker shuttle could be used to other area hydrants.

2. Commercial building at 9801 Rte 15, 3000 GPM needed and 1700 GPM available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
3. Commercial building at 600 Access Road, 2500 GPM needed and 2200 GPM available. A long hose lay and/or tanker shuttle could be used to other area hydrants.
4. Commercial building at 3300 Airport Rd., 3000 GPM needed and 1900 GPM available. A LDH/long hose lay and/or tanker shuttle could be used to other area hydrants.

### **West End Fire (including Foxfire Station)**

The West End district is in the Southwest quadrant of the County, and is ISO Class 6 within 5 miles of the fire station (most of the district), class 9E within 5-6 miles of the station, and has a small amount of Class 10 areas that are beyond 6 miles from the station in the West end of the district.

Currently they have 5 pumpers (1981, 1988, 1994, 1995, 1997) with 1000 gallon water tanks, two of which have 1200' of 5" hose. Maybe cut back two pumpers and replace with one pumper-tanker with a 2000 gallon water tank. Put 1000' of 5" supply hose on all pumpers. Area is all Class 6 with some 9 and 10 area, should be able to reduce Class 9 area with this truck and shuttle/long hose lay.

The project team was not provided with specific ISO fireflows for this district, however most of the built-up area of the district has hydrants as well as a number of static water points. The ISO 6 district-wide shows that the department has been successful in exhibiting the ability to move water outside of their hydranted area, and with some additional work, may be able to move to an ISO 5.

### **Westmoore Fire**

The Westmoore district is in the Northwest quadrant of the County, and is ISO Class 7 within 5 miles of the fire station, class 9E within 5-6 miles of the station, and has some Class 10 areas that are beyond 6 miles from the station. The ISO evaluation in 2012 did not appear to take into account the 2006 tanker-pumper that Westmoore owns, nor automatic aid apparatus.

Currently they have two pumpers (1990 and 1997) with 1000 and 1250 gallon water tanks and 600-800' of 3" hose. They also have a 2006 single rear axle tanker with a 2000 gallon water tank and a 750 GPM pump. Vehicle arrangement is good; recommend 1000' of 5" supply hose for each engine but the 1990 engine should be replaced in 3-5 years. ISO says four engines are needed and they got credit for two (2012 review) and generally scored low for engines including not enough hose on E144. Lots of room for work here to improve ISO including hose/equipment, and long hose lays/tanker shuttles.

As identified by ISO, water supply deficiencies exist in every part of this district, except a residential occupancy near Limestone Road and Browns Mill Road where 500 GPM was needed, and 1300 GPM was available:

1. Westmoore Elem School, 2159 Highway 705, 3000 GPM needed and 900 GPM available. A tanker shuttle could be used to other area dry hydrants.



- 2-4 Chicken Houses on Browns Mill Road, 681 Bascom Chapel Road, and 4147 Busbee Road, 4000 GPM needed for each and 300-450 GPM available via tanker relay. Upgrade tanker shuttle.
5. Chicken House at 2800 Spies Road, 2250 GPM needed and 850 GPM available. A tanker shuttle could be used to other area dry hydrants.
6. Restaurant 2544 Highway 705, 1000 GPM needed and 700 GPM available. A tanker shuttle could be used to other area dry hydrants.
7. Church, 1844 Highway 705, 1500 GPM needed and 950 GPM available via a calculated tanker relay. Tanker shuttle or long hose lay could be used to other area dry hydrants.
8. Frame Shop, 361 Brewer Road, 1750 GPM needed and 350 GPM available via calculated tanker relay. A tanker shuttle could be used to other area dry hydrants.
9. Chip Company, 4080 Spies Road, 1250 GPM needed and 250 GPM available via calculated tanker relay. However, there is documentation of a green hydrant at this address.
10. Possibly a barn at 1564 Chrisco Road, 750 GPM needed and 450 GPM available via a calculated tanker relay. Appears to be ponds available in the area, arrange for access/use of these via long hose lay.
11. Possibly a barn or chicken house at 1564 Chrisco Road, 3500 GPM needed and 450 GPM available via a calculated tanker relay. Appears to be ponds available in the area, arrange for access/use of these via long hose lay

Using larger tankers in a preplanned shuttle operation should be able to achieve at least a 700-800 GPM flow capability.

### **Whispering Pines Fire/Rescue**

The Whispering Pines district is in the Center of the County, and is ISO Class 6 within 5 miles of the fire station (large majority of the district), with a small section of class 9E within 5-6 miles of the station at the West end of the district, and that area may not have much construction.

Currently they have two pumpers (1998 and 2012) with 1000 gallon water tanks and 1000' of 5" hose on each. They also have a 2002 Kenworth/Fouts Bros. tanker with a 3000 gallon water tank and a 500 gpm pump. Vehicle arrangement is good, although whenever replaced, the tanker should get a larger pump.

Do not have specific ISO fireflows for this district. However some of the target hazards include a supermarket, country club, and condominiums. Most of the built-upon areas of the district have hydrants with many of them capable of flows exceeding 1000 GPM pump, and there are numerous well-identified and cataloged water supply points with numerous lakes/ponds in the district. The dry hydrants are backflushed monthly and flow tested annually. The ISO 6 district-wide shows that the department has been successful in exhibiting the ability to move water outside of their hydranted area, and likely with some work, this district could upgrade their rating to a "5" or even a "4".

## SUMMARY

Areas where needed fire flow exceeds available fire flow essentially indicate that in a significant fire incident, it is likely that the fire department will not have an adequate water supply to achieve fire control. In a number of locations, available fire flows for a property were limited due to distance from hydrants and lack of demonstration of a large diameter hose relay, which has been recommended elsewhere.

Most of the companies reviewed did carry the equipment necessary to perform tanker shuttle operations, including low-level strainers, dump tanks, etc.

Global recommendation on dry and wet hydrants – “For maximum credit in the schedule, all hydrants should be inspected twice a year, the inspection should include operation and test at domestic pressure. Records should be kept of the inspections.” Dry hydrants should be flushed twice per year.

Several districts indicated that for their draft points, they would rather have just access to the water source for direct drafting vs. a dry hydrant, as it is easier for them to connect draft hose and a suction strainer into the water source rather than lining up and connecting to the dry hydrant. However, NC-DOI(ISO) specifically indicates that “For maximum credit in the Schedule, all suction points should be equipped with a dry hydrant with a 6-inch or larger pipe and fittings, a minimum number of 90-degree elbows (preferably no more than two) and suction screen placement so that the dry hydrant will deliver the design capacity in GPM (usually 1000 gpm) as specified in the NFPA Standard 1142 (standard on water supply for suburban and rural firefighting).”

NOTE - tanker size depends upon an evaluation of road conditions, and driver abilities for each fire district. 2000 gallon tanker can be single rear axle, while anything bigger is double axle and drivers need to be able to handle vehicles of that size and weight. If companies need more space to carry manpower, utility vehicles can be utilized. Also, automatic aid engines should be considered during the ISO evaluations for many of these companies.

Insufficient fireflow was identified by NCOSFM as noted below:

### Aberdeen

Test Location	Service	Flow - GPM				Pressure PSI		Flow at 20 PSI	
		Individual Hyrants		Total	Static	Resid.	Needed	Avail.	
1200 Paint Hill Rd		Calculated Tanker Relay						500	450
39898 Rosy Rd		Calculated Tanker Relay						1250	450
420 Log Cabin Ln		Calculated Tanker Relay						1000	450
1390 Bethesda Rd	Town of Aberdeen	1140			1140	100	50	2000	1500
US 1 & Roseland Rd	Town of Aberdeen	710			710	100	32	2500	800

## Carthage

Test Location	Service	Flow - GPM			Pressure PSI		Flow at 20 PSI		
		Individual Hyrants		Total	Static	Resid.	Needed	Avail.	
1490 McNeal St	Main	1190			1190	78	66	7000	2800
3741 Highway 15-501	Main	270			270	56	42	5000	450
3741 Highway 15-501	Main	270			270	56	42	5000	450
Grady Rd in front of school	Main	530			530	140	34	5000	550
Grady Rd in front of school	Main	530			530	140	34	2500	550
Union Church Rd. N of School	Main	530			530	110	20	4500	550
Gilliam McConell Rd dead end	County System	530			530	118	22	3000	550
Summer Hill Church Rd & Cook Rd	County System	530			530	60	18	2250	500
McReynolds Rd in front of store	Main	530			530	82	24	1500	550
202 Buggy Dr	Main	250			250	62	54	750	600

## Cypress Pointe

Test Location	Service	Flow - GPM				Pressure PSI		Flow at 20 PSI	
		Individual Hyrants			Total	Static	Resid.	Needed	Avail.
Fancy Acres & Vass/Carthage Rd	East Moore HP	860			860	136	124	3000	2900
Holly St & & Holly Ridge Apts	East Moore LP	710			710	100	32	5000	1300
Holly St & & Holly Ridge Apts	East Moore LP	530			530	60	52	1750	1300
2519 Hwy 24-27	Town of Cameron	900			900	48	46	4000	3700
2316 Tractor Ln	Calculated Tanker Relay							1500	700
255 Boys Camp Rd	Calculated Tanker Relay							2000	750
683 Sadler Family Rd	Water Relay							1750	1250
Grand Magnolia & Woodlake Blvd	Aqua of NC	1240			1240	92	66	2250	2100
821 Lobeia Rd	East Moore LP	650			650	60	16	2500	600
1008 Staton Hill Dr	East Moore LP	530			530	62	12	1750	500
322 Cypress Rd	Calculated Tanker Relay							750	750
185 Gilcrist Rd	Calculated Tanker Relay							500	650

## Eastwood

Test Location	Service	Flow - GPM			Pressure PSI		Flow at 20 PSI		
		Individual Hyrants		Total	Static	Resid.	Needed	Avail.	
Maplewood Ln & Hwy 73	Moore County	690			690	62	32	3000	850
8040 US Hwy 15/501	Moore County	790			790	126	58	3000	1000
7540 US Hwy 15/501	Moore County	530			530	108	84	250	1100
1580 Carthage Rd	Calculated Tanker Relay							2000	450
3619 Murdockville Rd	Calculated Tanker Relay							2250	450
450 Doubs Chapel Rd	Calculated Tanker Relay							2250	450
6644 Beulah Hill Church Rd	Calculated Tanker Relay							500	450

## Robbins

Test Location	Service	Flow - GPM				Pressure PSI		Flow at 20 PSI	
		Individual Hyrants			Total	Static	Resid.	Needed	Avail.
Plank Road beside building	Main	750			750	38	34	4500	1700
Hydrant beside building	Zone 2	890			890	57	47	4500	1800
Hydrant beside building	Zone 2	890			890	57	47	2000	1800
Rushwood School bus parking lot	Main	190			190	32	8	5000	150
1632 Spies Rd	Main	530			530	90	42	1250	650
3456 Hwy 705	Main	750			750	102	16	1250	750
Hemp Rd at Currie Baptist Rd	Main	230			230	58	56	3000	1100

### Pinehurst

Test Location	Service	Flow - GPM			Pressure PSI		Flow at 20 PSI	
		Individual Hydrants		Total	Static	Resid.	Needed	Avail.
35 Memorial & Page 1-208	Main	1400		1400	75	54	5000	2400
Midland Rd & Thomas Rd 2-025	Main	1190		1190	104	60	5000	1700
Aviemore Dr & Aviemore Ln	Main	750		750	68	36	4000	950
Aviemore Dr & Aviemore Ln	Main	750		750	68	36	3000	950
Kelly & Dundee 2-004	Main	860		860	68	64	4500	3300
Kelly & Dundee 2-004	Main	860		860	68	64	3500	3300
McMichael & Barons Dr 4-33	Main	1110		1110	60	44	2250	1800
Douglas St in front of building 5-12	Taylorstown	820		820	64	40	2500	1100
Magnolia @ Holly Inn 2-57	Main	1010		1010	62	50	3000	2000

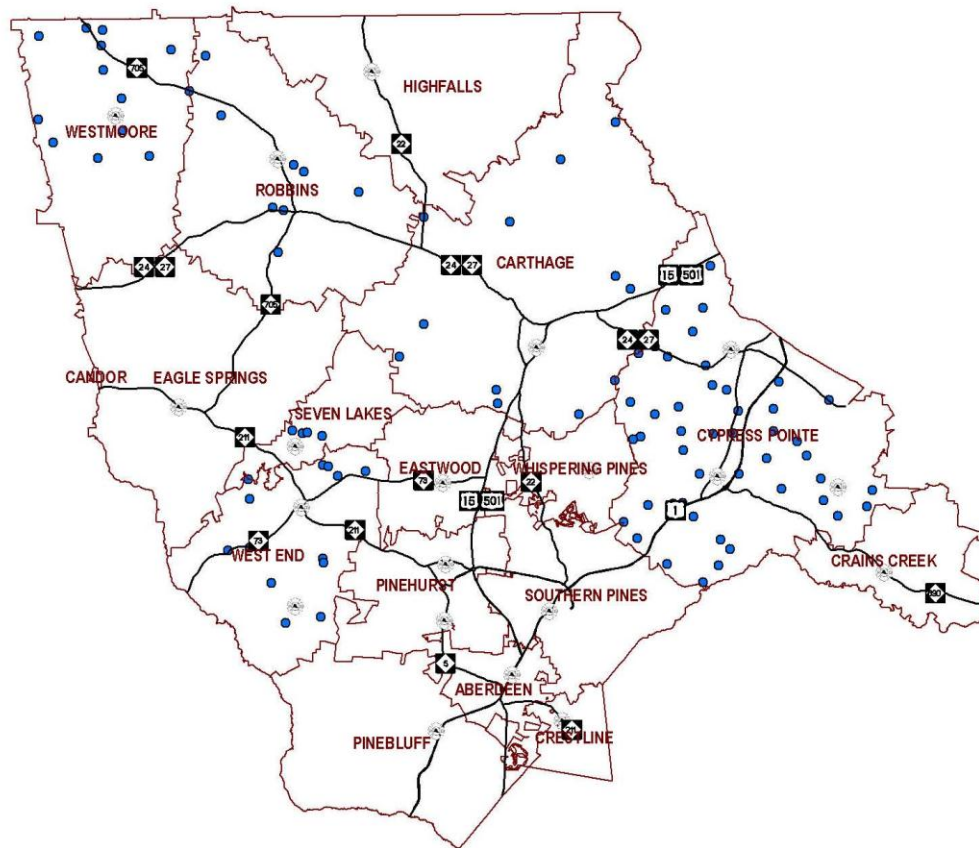
### Westmoore

Test Location	Service	Flow - GPM			Pressure PSI		Flow at 20 PSI	
		Individual Hydrants		Total	Static	Resid.	Needed	Avail.
2159 Hwy 705 in the parking lot	Main	560		1460	118	20	3000	900
Browns Mill Rd (BM-2)	Calculated Tanker Relay						4000	300
681 Bascom Chapel Rd	Calculated Tanker Relay						4000	450
4147 Busbee Rd	Calculated Tanker Relay						4000	300
4147 Busbee Rd	Calculated Tanker Relay						500	350
2800 Spies Rd	Main	710		710	124	46	2250	850
2544 Hwy 705	Main	730		730	112	18	1000	700
1844 Hwy 705	Calculated Tanker Relay						1500	950
361 Brewer Rd	Calculated Tanker Relay						1750	350
4080 Spies Rd	Calculated Tanker Relay						1250	250
1564 Chrisco Rd	Calculated Tanker Relay						750	450
1564 Chrisco Rd	Calculated Tanker Relay						3500	450

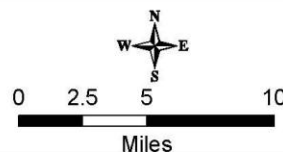
### RECOMMENDATIONS (as previously noted in the Executive Summary)

- 13-13 A water supply analysis-delivery system based on a target hazard in each community should be developed and revised as appropriate in each agency assuring the water supply can be achieved or alternative firefighting considerations defined.

## Moore County Fire Districts with Water Points



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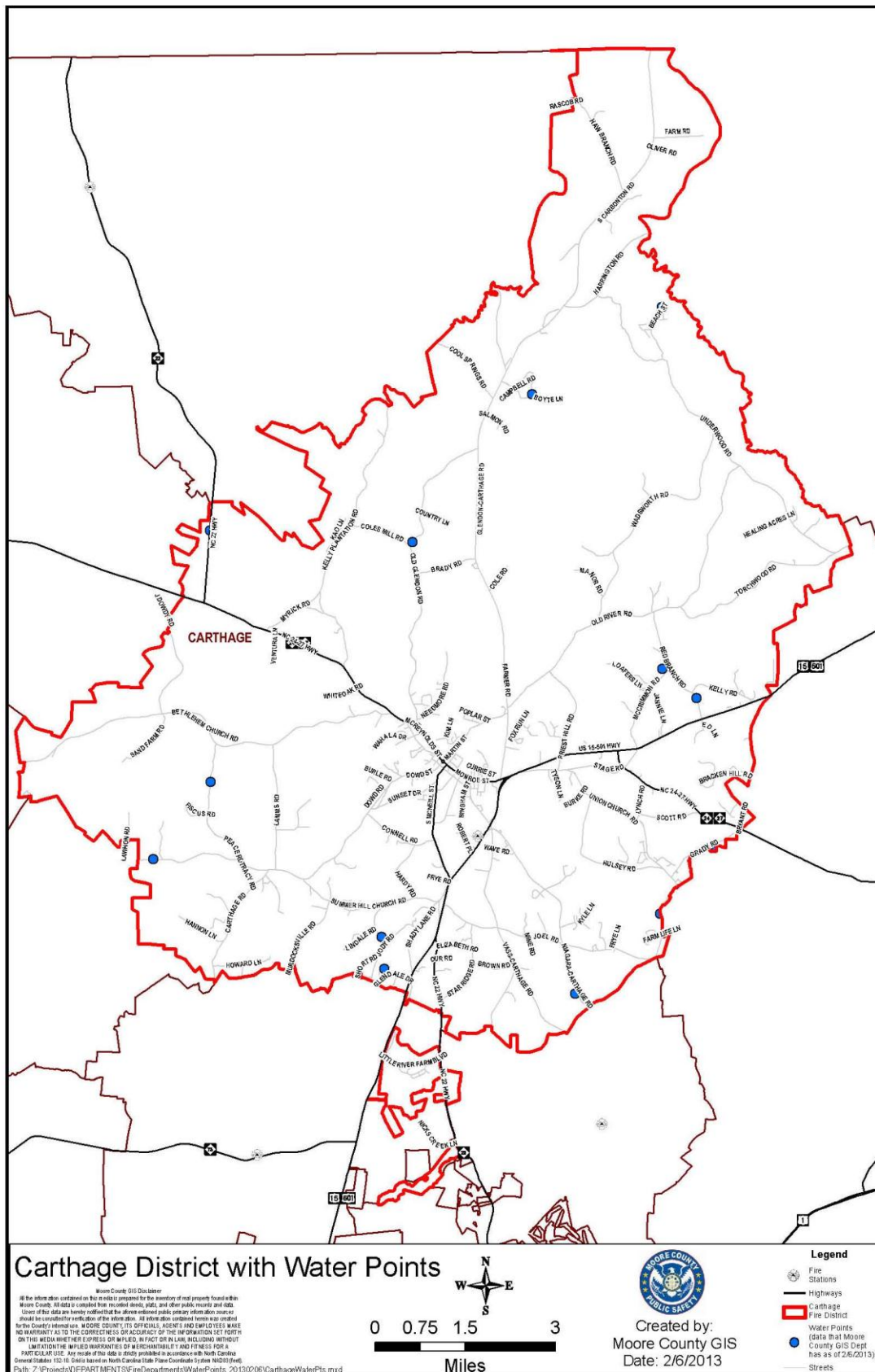


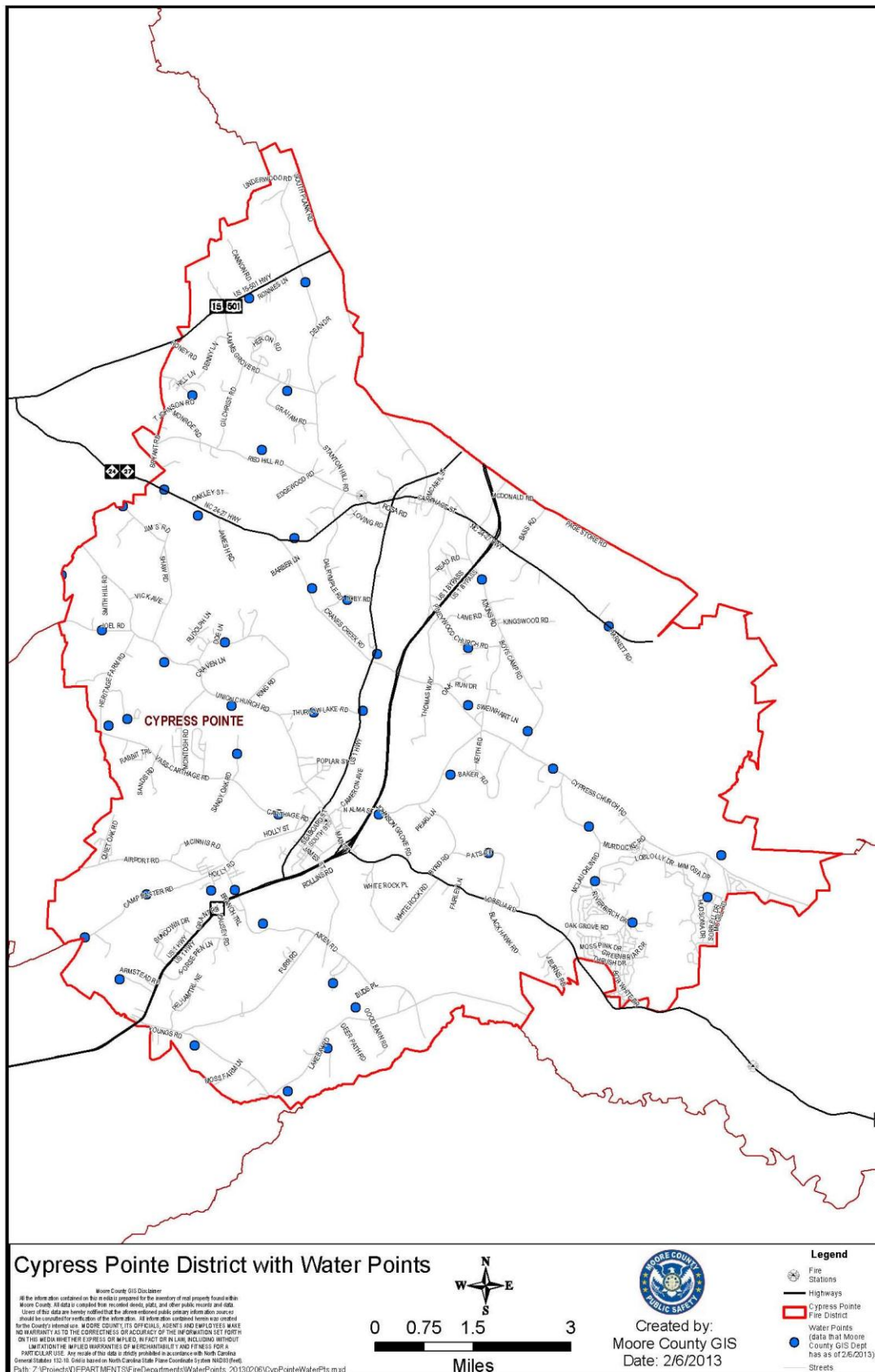
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Date: 2/6/2013

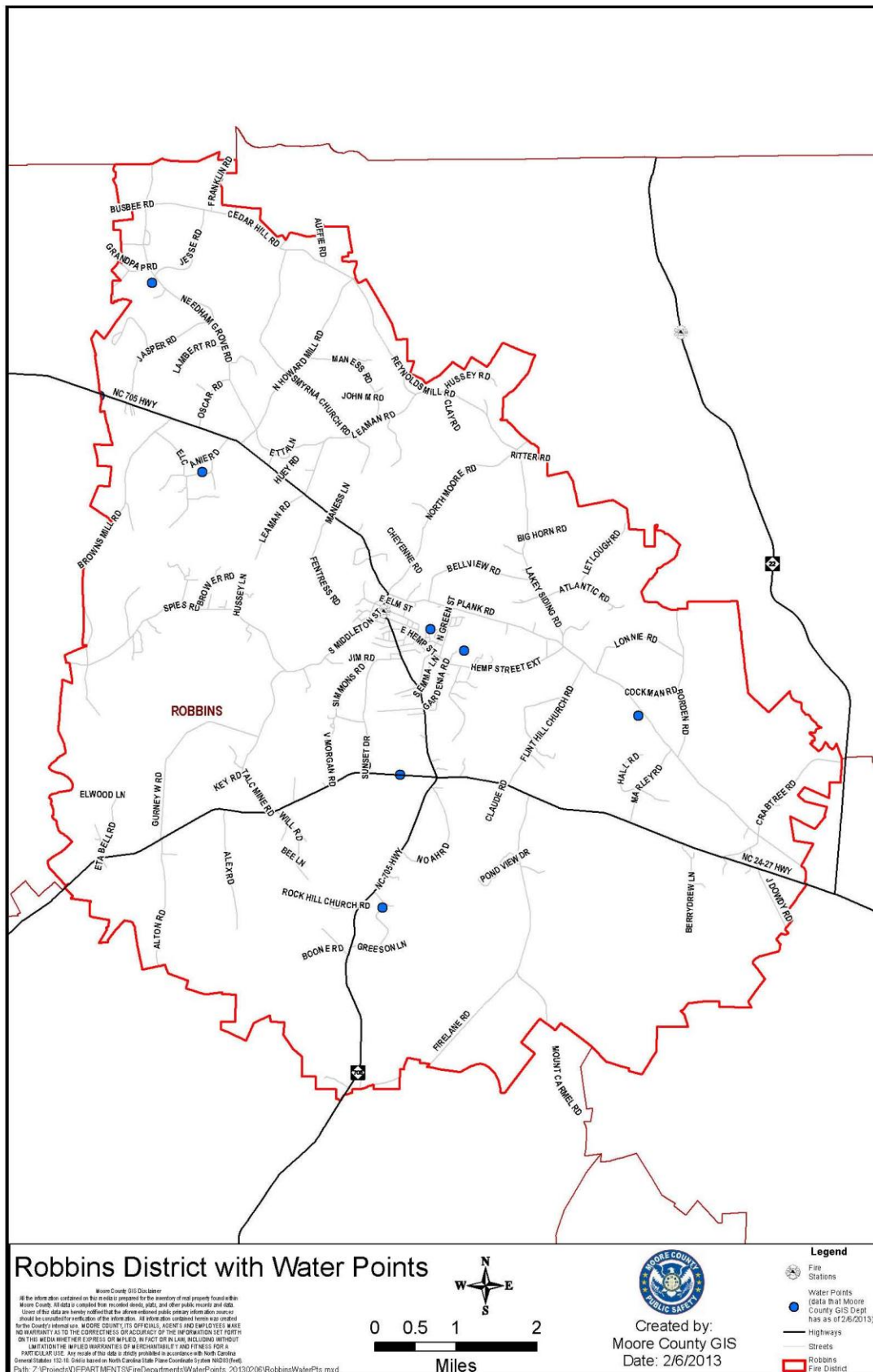
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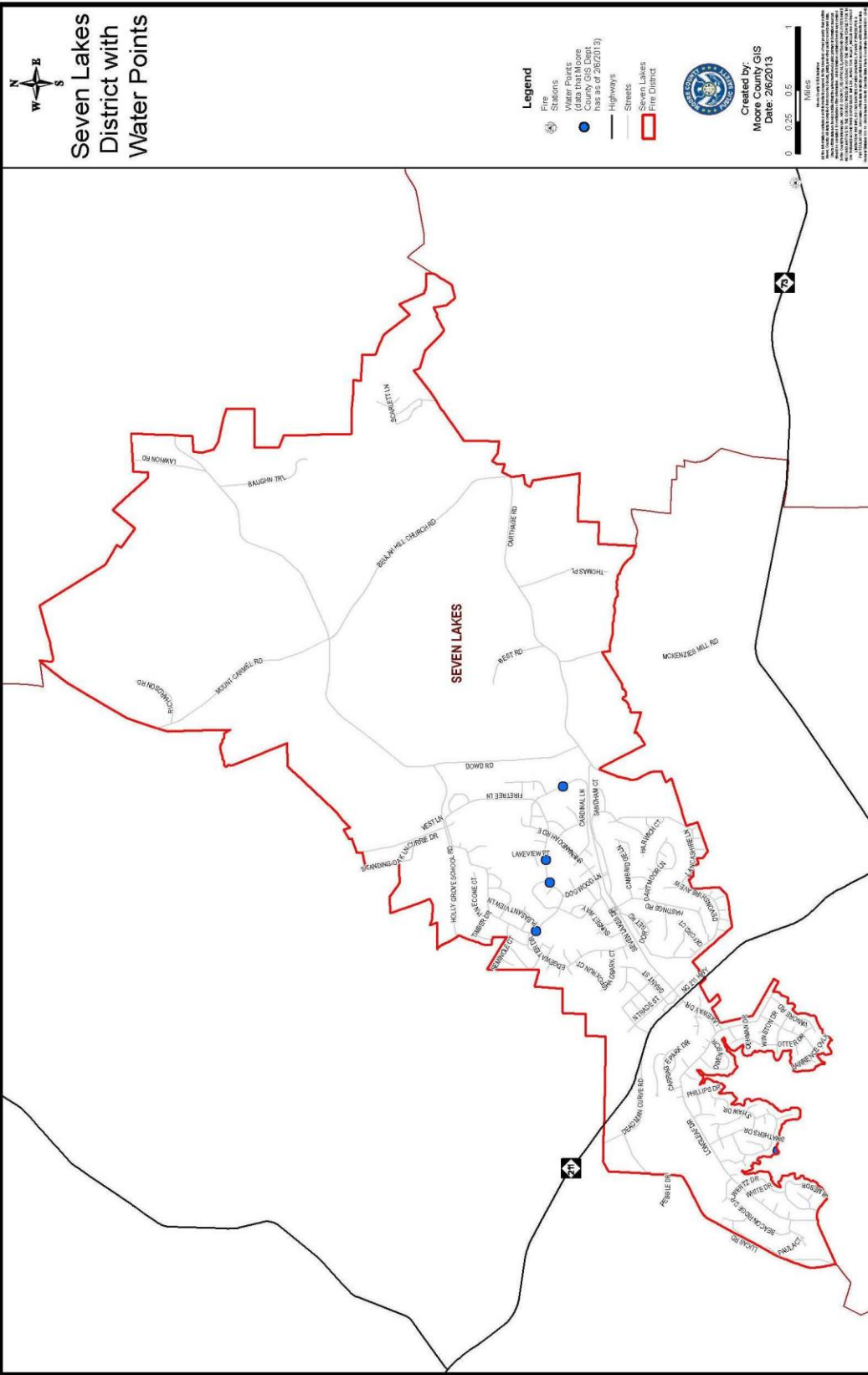
- Fire Stations
- Water Points  
(data that Moore County GIS Dept has as of 2/6/2013)
- Highways
- Fire Districts



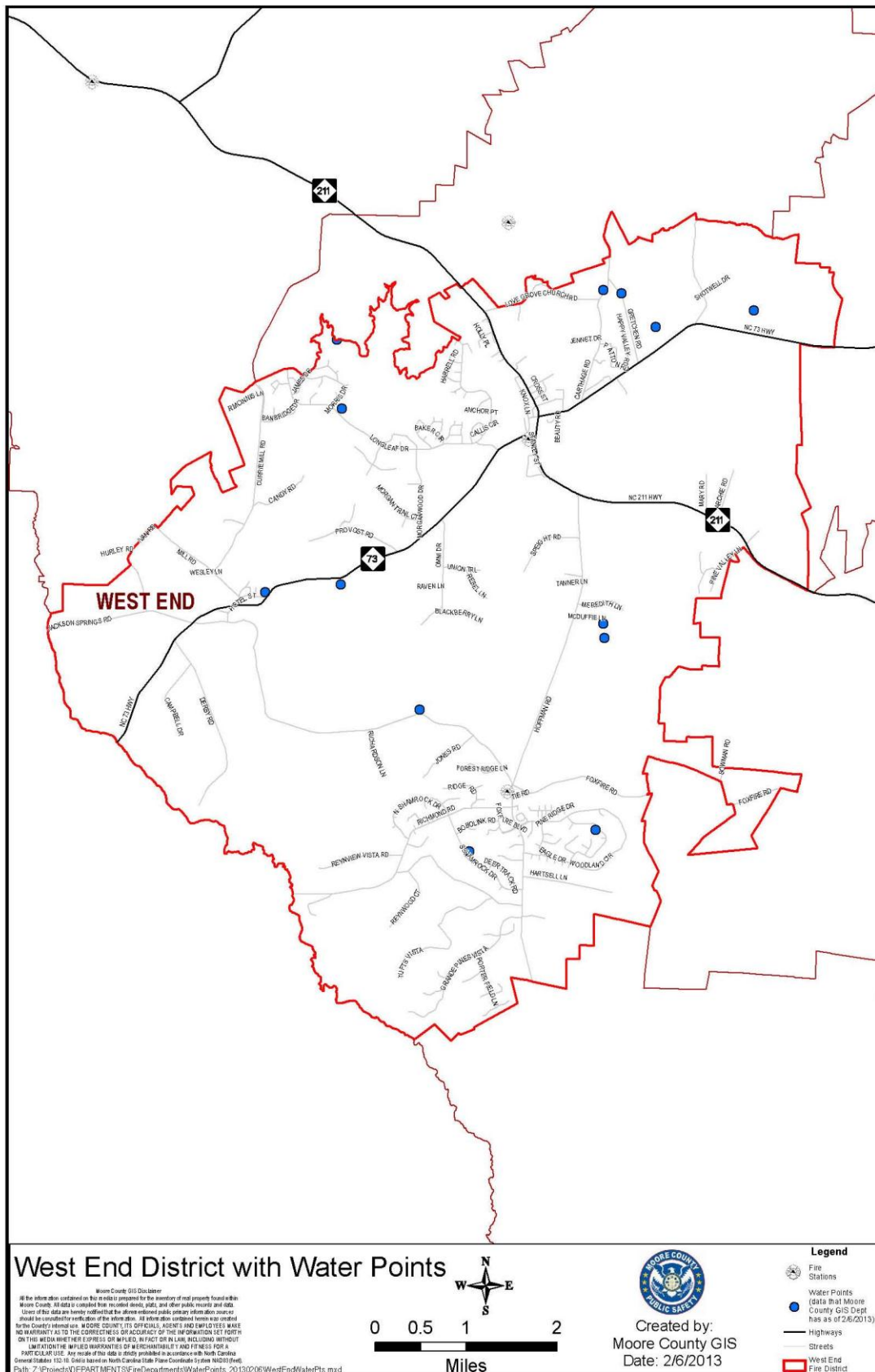




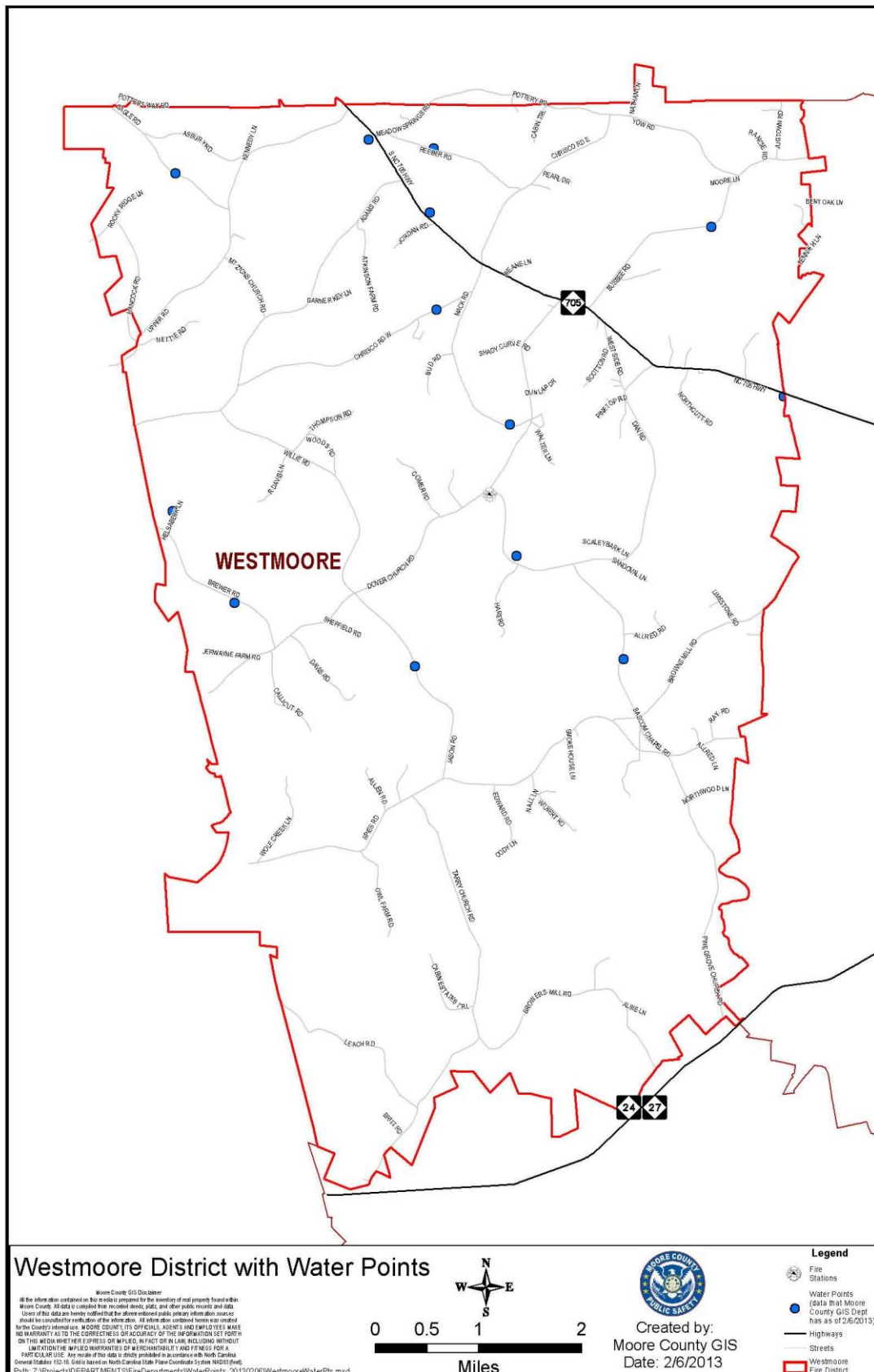












## **Finances**

Moore County currently has a fire service funding approach which combines taxation, fees, grants, and fundraising as the major components. In reality, either the base county subsidy, fire fee or fire tax serves as the primary income to each agency. Without this income, they cannot survive.

When discussing revenue streams with each agency, it was found that the revenue streams vary by agency. As a synopsis, the following were found as revenue streams in place in the county, but NOT by all agencies:

- Municipal Subsidy (Town funding)
- County Subsidy
- Fundraisers
- Fund Raising letters to residents
- Rental Income
- Grants – some have received FEMA, USDA, and state grants

As noted above, volunteer fire departments servicing Moore County utilize multiple revenue streams (e.g. fund raising, municipal contribution, contributions to fund drives) to fund their operations. Typical operational expenditures are for firefighting equipment, vehicle and structure maintenance, fuel and utilities, communication equipment, personal protective equipment, training, fire prevention, administration, etc.

The issues of funding and personnel were identified by fire department officers as the key issues facing them in the future. The discussions with the fire departments regarding operating budgets appear appropriate for organizations of their type, size and complexity.

One of the concerns identified was the current contracts in place between the county and the fire departments, as well as assurance of compliance with various Federal and State requirements. Although renewed on an annual basis, the fundamental contract has not been revised in a number of years. To assure compliance with Federal and State requirements as well as to better define the expectations for performance in exchange for public tax dollars, the contract should be revised. Within the revision, current contracts used in other North Carolina counties and throughout the United States are providing expanded definitions of the performance expectations of the fire department; not because of poor performance on the part of fire departments, but based upon changing expectations of the current and next generation of residents as well as legislative requirements. These include the following key items:

1. Based upon revised borrowing criteria at the federal level, any request for major capital purchases that require borrowing over \$50,000 should be reviewed by a team of Moore County Finance & Moore County Fire Chief's Association personnel to assure need, assure borrowing is at the best rate available, the cash to debt level is appropriate, and to assure the risk of default is minimal.
2. Based upon state financial management requirements (due to state grants and use of public funds) an annual financial review shall be conducted by the fire department and

submitted to the county, as well as an asset listing. This would include a formal detailed ledger from cities to be reviewed by the Auditors.

3. Based upon state financial management requirements (due to state grants and use of public funds) any management comments resulting from the financial review require a response by the fire department to assure compliance.
4. Based upon Federal requirements to submit an annual 990 tax filing, each fire department should assure in writing that appropriate policies have been adopted regarding:
  - Conflict of interest
  - Whistleblower protection
  - Records retention
5. Based upon USDA financial management criteria, each fire department should work toward establishing a financial reserve of 3 months operating expenses, which should be accomplished by the year 2016.
6. Based upon County requirements, an annual budget shall be submitted to the county and adopted, prior to the issuing of any public funds.
7. Based upon state financial management requirements (due to state grants and use of public funds) a dissolution clause shall exist in each fire department's by-laws/articles of incorporation and a copy of these shall be on file in the county OES office, with the contract.
8. To assure the most efficient use of public funds in the purchasing process, the Moore County Fire Chief's Association should establish a group purchasing program.

The volunteer fire departments have been very successful in meeting the emergency services needs of the communities they serve. However, continued growth, changing customers, new public expectations of fire service agencies, and the increasing capital and operating costs continue to escalate throughout the county.

Capital expenditure processes were also discussed with each department. The project team noted that the fire departments specifically plan and request a capital expense in a particular year for inclusion in the following year budget. While practical from a single year budgeting process, it can create a major challenge when the expenditure is of significant dollars, such as a fire engine for \$400,000. Recent business models for municipal government have shown these expenditures to be better handled by either leasing, pre-funding the capital expense, borrowing funds for a period of years, or floating bonds. In this fashion, funds can be allocated over a period of years and upon purchase of a high cost vehicle or station, the funds are already in place for use.

The project team found the budgeting process as acceptable given the size and complexity of the organization, but believes long term capital planning is necessary for fire apparatus replacement and fire station construction purposes.

To better assure a consistent level of service throughout the county, to continue to work toward improved insurance rating and to assure the closest station to incidents are involved in responses, a single county-wide fire tax of 8 percent (as noted on the accompanying chart) is recommended, consistent with the accompanying limit.

Equalization rates are used to ensure that property taxes, especially those paid by members of multiple jurisdictions, are assessed equally and in proportion to fair market value across all municipalities.

Equalization seeks to ensure, for example, that a taxpayer in one community whose property has a fair market value of \$100,000 will pay the same taxes as a property with a fair market value of \$100,000 in another community, regardless of how those two properties are assessed.

While equalization should, in the long term, help to provide a more efficient service county-wide, the concentration of resources will always be in population centers versus rural areas. Regionalization of funding and deployment will better provide protection to all residents, and hopefully stabilize or reduce insurance costs.

Once the rate is stabilized throughout the county it will eliminate potential for wide fluctuations from year to year depending upon capital purchases and enable enhanced planning by individuals and government alike.

As the fire departments all rely heavily on the funding provided by the county to extract that funding would put several of the departments into financial crisis immediately and affect routine operations. To others it would immediately result in cutbacks and/or use of reserve funds. Cutbacks would no doubt first affect part-time paid staff, which would in turn result in longer response times to incidents and possible non-response to some incidents. This in turn would result in even further problems as mutual aid requirements would expand, placing even further challenges on the agencies. The contracts currently in place do not provide for a dissolution clause which would direct the disposition of assets obtained through public funds, from the point of next contract initiation forward.

### Moore County Average Fire District Tax Rate Analysis

	2012-13 Tax Base	Current Tax Rate	Current	0.07 Average Rate	0.075 Average Rate	0.080 Average Rate	0.085 Average Rate	0.09 Average Rate
Aberdeen	\$51,125,000	0.092	\$46,329.00	\$36,332.49	\$38,927.66	\$41,522.84	\$44,118.02	\$46,713.20
Carthage	\$364,500,000	0.064	\$229,781.00	\$259,035.53	\$277,538.07	\$296,040.61	\$314,543.15	\$333,045.69
Crains Creek	\$108,150,000	0.111	\$118,246.00	\$76,857.87	\$82,347.72	\$87,837.56	\$93,327.41	\$98,817.26
Crestline	\$91,995,000	0.083	\$75,211.00	\$65,377.16	\$70,046.95	\$74,716.75	\$79,386.55	\$84,056.35
Cypress Pointe	\$803,500,000	0.081	\$641,072.00	\$571,015.23	\$611,802.03	\$652,588.83	\$693,375.63	\$734,162.44
Eagle Springs	\$219,350,000	0.075	\$162,045.00	\$155,883.25	\$167,017.77	\$178,152.28	\$189,286.80	\$200,421.32
Eastwood	\$216,755,000	0.070	\$149,453.00	\$154,039.09	\$165,041.88	\$176,044.67	\$187,047.46	\$198,050.25
High Falls	\$153,030,000	0.066	\$99,485.00	\$108,752.28	\$116,520.30	\$124,288.32	\$132,056.35	\$139,824.37
Pinebluff	\$204,200,000	0.086	\$172,978.00	\$145,116.75	\$155,482.23	\$165,847.72	\$176,213.20	\$186,578.68
Pinehurst	\$174,800,000	0.086	\$144,630.00	\$124,223.35	\$133,096.45	\$141,969.54	\$150,842.64	\$159,715.74
Robbins	\$265,150,000	0.063	\$164,539.00	\$188,431.47	\$201,890.86	\$215,350.25	\$228,809.64	\$242,269.04
Seven Lakes	\$668,850,000	0.040	\$263,527.00	\$475,324.87	\$509,276.65	\$543,228.43	\$577,180.20	\$611,131.98
Southern Pines	\$538,500,000	0.089	\$472,076.00	\$382,690.36	\$410,025.38	\$437,360.41	\$464,695.43	\$492,030.46
West End	\$430,550,000	0.059	\$250,214.00	\$305,974.62	\$327,829.95	\$349,685.28	\$371,540.61	\$393,395.94
Westmoore	\$177,530,000	0.070	\$122,407.00	\$126,163.45	\$135,175.13	\$144,186.80	\$153,198.48	\$162,210.15
Whispering Pines	\$128,450,000	0.058	\$73,383.00	\$91,284.26	\$97,804.57	\$104,324.87	\$110,845.18	\$117,365.48
<b>Total:</b>	<b>\$4,596,435,000.00</b>		<b>\$3,185,376.00</b>	<b>\$3,266,502.03</b>	<b>\$3,499,823.604</b>	<b>\$3,733,145.18</b>	<b>\$3,966,466.75</b>	<b>\$4,199,788.32</b>



The contract between the county and the agencies should be updated periodically to assure currency of performance expectations on both sides as well as financial constrictions.

The project team found that there was wide disparity on how the volunteer fire departments compensated their part time paid personnel. The hourly rates ranged from \$8.00 upwards past \$15.00 with some part time personnel getting varied benefits in addition to the state mandated workers compensation.

There should be a consistent method across all agencies to compensate firefighters (from county funds). It should also be noted that training requirements identified in the “Personnel & Training” section of this report as well as contact performance requirement are prerequisites for this compensation program.

It is recommended that the county establish a standard hourly rate of \$10.00 county-wide for part time firefighters. This rate will be reimbursed by the county using the annual budget process, implementing a personnel line in that budget.

Individual fire departments may adjust the \$10.00 rate upwards depending upon the qualifications, certifications, and length of service of the individual firefighter. The individual fire department will be responsible for any additional hourly wage above the \$10.00 county minimum.

The project team recommends the following certifications be considered in calculating a part time hourly rate increase.

- First Responder
- NFPA 1403
- Firefighter I
- Firefighter II
- EMT
- Fire Officer (if working in an officers position)

Length of service should be calculated by determining the number of years a person has been a qualified firefighter. A rate increase should be considered on an annual basis.

There shall be county-wide minimum benefits for all part time firefighter. Those benefits include workers compensation (the project team found at least one case where an employee was not being provided workers compensation coverage which is mandated by law in North Carolina).

Due to the fact that state workers compensation coverage only pays 2/3 of an employee’s salary on the job he/she was injured on; the project team recommends a supplemental accident & sickness policy be provided for each part time firefighter that will pay an additional amount when a part time firefighter is injured and cannot work at his/her normal occupation ,if any.

**Firefighters are really EMS-Firefighters. In most cases, more EMS calls are handled than are fire calls.**

A fire commission should be established to replace the current Emergency Service Advisory Board, whose primary role is financial management of the fire service. This new commission should include the following representation:

- Fire Marshal (chair)
- County Elected Official
- Director of Public Safety
- Two members of Fire Chiefs Association
- Four members – civilian non-fire agency affiliated, one from each of four “quadrants” of county, with term limits of three years; maximum two terms

### **RECOMMENDATIONS (as previously noted in the Executive Summary)**

- 13-14 A long-term capital funding model is recommended. A projected plan for apparatus to be purchased at the rate of one engine per year, one rescue-engine per year, one aerial device every other year, one heavy rescue every three years, one brush truck every year and two small vehicles each year is a general average purchase resulting in a related funding requirement. The decision is whether this would be the responsibility of the buying agency or through the county purchasing system. In either case, the funding would come from some tax-based source.
- 13-15 A process for determining replacement fire apparatus needs to be implemented. An evaluation should be completed for each piece of apparatus in the fleet. This will help determine potential longevity of the apparatus as well as help in determining financing operations.
- 13-16 Going forward, in concert with any funding provided by the county, assurance should be made that a signed contract is secured with each responding agency. The contract should include the following language to assure, if the agency is dissolved for any reason, that the assets obtained with public funds going forward, are properly disposed of.

In the event of a dissolution of the FD or the winding up of its affairs, or other liquidation of its assets, the FD’s property shall not be conveyed to any organization created or operated for profit or to any individual for less than the fair market value of such property, all assets remaining after all debts and expenses of the FD have been paid provided for shall be conveyed or distributed by the Board of Trustees to one or more organizations qualifying for the exemption afforded by Section 501 (c) (3) of the Code. Any assets not so distributed shall be disposed of by a Court of Common Pleas of competent jurisdiction exclusively for such purposes or to such organization or organizations, as said or shall determine which are organized and operated exclusively for such purposes.

No part of the net earnings of the FD shall inure to the benefit of any Trustee of the FD, Officer of the FD or any private individual (except that reasonable compensation may be paid for services rendered to or for the FD affecting one or more of its purposes), and no Trustee or Officer of the FD shall be entitled to share in the distribution of any of the FD

assets upon dissolution of the FD. No substantial part of the activities of the FD shall be the carrying on of propaganda, or otherwise attempting to influence legislation, (including the publication or distribution of statements), any political campaign on behalf of any candidate of public office.

- 13-17 Establish a single fire tax rate for non-municipal tax districts in order to assist citizen to receive consistent service capability throughout the county.
- 13-18 A fire commission should be established to replace the current Emergency Services Advisory Board. Suggested representation on the new commission, whose primary role is financial management of the fire service should include:
- Fire Marshal (chair)
  - County Elected Official
  - Director of Public Safety
  - Two members of Fire Chiefs Association
  - Four members – civilian non-fire agency affiliated, one from each of four “quadrants” of county
- 13-19 As part of the contract for provision of fire services between the county and the local service agency, the contract should be updated periodically (every five years or upon required change need) and a dissolution clause should be included in each agency’s by-laws and a copy of said by-laws should be kept on file with the contract.
- 13-20 A standardized, consistent approach to paying firefighters compensated with county funds should be developed to include a salary and benefit component.
- 13-21 Group purchasing should be implemented for reduced purchase costs, enhanced interoperability and standardization.

## Sample Contract - Municipal

STATE OF NORTH CAROLINA

### CONTRACT FOR FIRE PROTECTION AND RESCUE SERVICES

COUNTY OF MOORE

THIS CONTRACT for Fire Protection Services (this "Contract") made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2011, by and between the by and between the **County of Moore, a body politic and corporate**, (hereinafter the "County"), party of the first part, and the **TOWN OF ABERDEEN, a municipal corporation**, (hereinafter the "Town"), party of the second part;

#### WITNESSETH:

WHEREAS, Fire Protection Districts have been duly and properly created, defined and established in Moore County under the provisions of Article 3A of Chapter 69 and Article 16 of Chapter 153A of the North Carolina General Statutes in order to provide fire protection services to areas encompassed thereby; and

WHEREAS, within each Fire Protection District, the Board of County Commissioners of Moore County has designated one or more areas of responsibility (each, a "Fire District"), each of which is intended to be served by one fire department pursuant to boundaries shown on maps on file in the office of the Moore County Fire Marshal (the "Fire Marshal"); and

WHEREAS, the Board of County Commissioners, under the provisions of G.S. 69-25.5 and G.S. 153A-233 of the North Carolina General Statutes, may provide fire protection services in Rural Fire Protection Districts by contracting with any incorporated city or town and desires to enter into this Contract, which shall be deemed to be a continuing contract pursuant to G.S. 153A-13 of the North Carolina General Statutes, with the Town to provide fire protection services in the Fire Department District, which is defined in Chapter 69 of the North Carolina General Statutes; and

WHEREAS, the Town has secured equipment, land and buildings for the operation of one or more fire stations; and

WHEREAS, the Board of County Commissioners (a) is authorized and directed under the provisions of Section 69-25.4 and Section 153A-307 of the North Carolina General Statutes, to levy and collect taxes from year-to-year in Fire Districts and (b) shall keep and administer the same in a separate and special trust fund to be used only for furnishing fire protection services within the applicable Fire District (the "Trust Fund"); and

WHEREAS, the Board of County Commissioners, in accordance with the provisions of Section 159-14 of the North Carolina General Statutes, sets a special tax rate based on an annual budget estimate setting forth the monetary requirements for providing fire protection services in the Fire Districts; and

WHEREAS, the Board of County Commissioners, also acting pursuant to Section 159-14 of the North Carolina General Statutes, adopts an annual budget ordinance appropriating tax monies levied and collected from the Fire Districts and authorizing transfers and expenditures from the Trust Fund only for fire protection services in the Fire Districts as specified in the continuing contracts; and

WHEREAS, Chapter 159 of the North Carolina General Statutes provides that the County budget ordinance may be in any form that the Board of County Commissioners of any County deems most efficient in enabling it to make the fiscal policy decision embodied therein and provides for a fund for each special district whose taxes are collected by the County; and

WHEREAS, the County and Town desire to enter into this Contract for the Town Fire Department to furnish fire protection for and within its Fire District.

NOW, THEREFORE, in consideration of the mutual promises and agreements herein contained and the mutual benefits to be derived therefrom and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties promise and agree as follows:

## ARTICLE I

The Town promises and agrees as follows:

1. Scope of Service:

a. Territorial Responsibility: The Town shall provide the services hereinafter set forth within the boundaries of the Aberdeen Rural Fire District, which encompasses approximately 11.124 square miles for fire protection purposes and 17.197 square miles for emergency response services, as mutually agreed by the Parties and as shown and defined on maps on file in the offices of the Fire Marshal (the “Fire Department District”). The Town will provide rescue service in the Pinebluff Fire District until such time as the Pinebluff Fire Department or other entity controlled by the Town of Pinebluff assumes responsibility for the rescue service. The Town of Pinebluff shall provide the County and the Town thirty (30) days written advance notice of its intent to assume responsibility for rescue services.

b. Service Responsibility:

(1) The primary responsibility of the Town Fire Department shall be to furnish adequate (i) fire protection and (ii) other emergency response services (including, but not limited to, basic level life support first responder services, “medium duty” and technical rescue services (as defined by North Carolina Association of Rescue and Emergency Medical Services, Inc.) as determined by the Fire and Rescue Commission of the North Carolina Department of Insurance, the County Board of Commissioners, the Town Board of Commissioners, applicable federal, state and local laws and regulations, and this Contract for all persons and property located within the Fire Department District and in accordance with minimum standards set forth in this Contract and all amendments hereafter adopted in accordance with Section 2 of Article III of this Contract.

(2) Special service district tax funds levied and collected by the County and paid to the Town by the County shall be used for Town Fire Department operations, fire protection, and emergency services in the Fire Department District and other areas of response as dispatched and to meet the standards established by this Contract.

(3) In the event that the Town Board of Commissioners determines that the Town Fire Department is unable to reliably deliver the services described herein for reasons including, but not limited to, resignation or withdrawal of volunteer, part-time or full-time members or other withdrawal or loss of ability to deliver services, the Town shall immediately so notify the Fire Marshal.



(4) If the County determines that the Town has failed to render the protection and services to the Fire District as provided in this Contract, then the County shall give the Town ninety (90) days advance written notice that the funds allocated are subject to suspension. If during the said ninety (90) day period, the Town makes improvements satisfactory to the County, no suspension shall occur. During the ninety (90) day period, the Town is not relieved of its responsibility to provide fire protection and emergency services in a manner otherwise consistent with the terms of this Contract.

c. Facilities, Equipment and Personnel: The Town shall provide all facilities, equipment and personnel, as reasonably deemed necessary thereby, to furnish fire protection and emergency services as required in this Contract.

d. Standards of Performance: The Town shall furnish fire protection and emergency services (1) in a professional, efficient and workmanlike manner and (2) pursuant to the requirements of, and in compliance with, the rules and regulations of the Office of State Fire Marshal of the North Carolina Department of Insurance and other applicable federal, state and local laws and regulations. The Town Fire Chief or designee agrees to participate jointly with the Moore County Chiefs Association, Inc. (“MCCA”) in the development and implementation of fire service delivery performance standards throughout Moore County including, but not limited to, accountability, staff identification, fire and emergency-event outcomes, customer satisfaction and dissatisfaction, documentation consistency, and compliance with minimum County standard operating procedures.

e. Minimum Standards: The minimal performance standards hereinafter set forth are adopted by the County and the Town:

(1) RESPONSE TIME: The Town Fire Department will be re-paged in the event that no response is received from the Town Fire Department by Moore County Department of Public Safety within four (4) minutes after initial dispatch of the Town Fire Department. The closest other fire department will be dispatched in the event that no response is received from the Fire Department by Moore County Emergency Management Division within six (6) minutes after initial dispatch of the Fire Department and two (2) minutes after the Town Fire Department is re-paged. The Town Fire Department shall use reasonable efforts to respond to incidents within the Town Fire Department District and shall respond to ninety-five percent (95%) of all Delta and Echo calls (as defined by the Medical Priority Dispatch System) within the Fire Department District.

(2) DISPATCH PROTOCOLS: The Town Fire Department shall comply with the Moore County dispatch protocols; provided, however, that the County shall not implement amended or new protocols without the prior concurrence of MCCA.

(3) STAFFING ON SCENE: The Town Fire Department shall maintain standard operating guidelines, which shall be available for review by the Fire Marshal upon request, that address adequate staffing to operate safely on all types of incidents and, as applicable to emergency response services, consistent with the standards promulgated by the MCCA.

(4) AUTOMATIC AID AGREEMENTS: The Town Fire Department shall cooperate and participate in the Moore County automatic aid agreements, applicable to fire as well as to emergency response services, as in force from time to time.

(5) MUTUAL AID AGREEMENTS: The Town Fire Department shall cooperate and participate in the Moore County mutual aid agreements, applicable to fire as well as to emergency response services, as in force from time to time pursuant to which the Moore County

Emergency Communication Center shall, for all calls, automatically dispatch the nearest mutual aid fire department if there is no response to the initial dispatch within six (6) minutes thereof.

(6) REPORTING: The Town Fire Department shall (a) participate in the National Fire Incident Reporting System (“NFIRS”) and the call reporting system in general use in Moore County and (b) provide copies of its reports to the Moore County Department of Public Safety on a monthly basis. The copies of reports should be provided by approved electronic format and are due by the 15<sup>th</sup> day of each month for the preceding month.

(7) TRAINING: The Town Fire Department shall maintain standard operating guidelines, which shall be available for review by the Fire Marshal upon request and which shall be designed to ensure safe and effective work practices and which shall meet or exceed the minimum County standards developed in conjunction with the MCCA, that address (a) appropriate initial training for all new personnel prior to participation in any emergency duties and (b) appropriate limitations upon the emergency response activities of personnel after completion of initial safety training and prior to completion of full probationary training.

The Town Fire Department agrees to support and work jointly and cooperatively with the Fire Marshal in development of and participation in one or more annual training sessions and in ongoing evaluations of emergency scene performance.

(8) CAPITAL IMPROVEMENT PLAN: The Town should maintain a Capital Improvement Plan/Long Range Plan (a “C.I.P.”) for fire protection in accordance with standards developed by the Town Fire Department and approved by the Town Board of Commissioners. The C.I.P. should include projections for at least ten years and provide standards for purchases in excess of \$25,000.00.

(9) FIRE STATION CONSTRUCTION/RENOVATION: The Fire Marshal shall, from time to time, make recommendations on new fire station locations and major renovations (which are deemed to be renovations of existing fire stations in excess of \$100,000.00 in aggregate cost) and, to the extent the Town uses any service district tax funds for new fire station locations or major renovations, the Town Fire Department shall not proceed therewith without the prior approval of the Board of County Commissioners.

(10) FUND BALANCE: The Town agrees that it will maintain a general fund balance in accordance with the Local Government Commission standards and Town policy.

(11) FIXED ASSETS: The Town shall maintain an accurate inventory of all equipment valued at \$5,000.00 or more used for fire protection. This fixed asset list shall be kept for each fire station that comprises part of the Town Fire Department and be available for review at reasonable times during business hours of the County.

(12) PUBLIC FIRE EDUCATION: The Town Fire Department shall develop a plan for providing public fire education within the Fire Department District. The Town Fire Department’s plan shall be revised annually and available for review by the Moore County Fire Marshal’s Office. The Town Fire Department should support public fire education programs offered through the Moore County Fire Marshal’s Office

(13) PRE-FIRE INCIDENT SURVEYS: The Town Fire Department should have the goal of developing pre-fire incident surveys and updating them annually for all commercial buildings

within the Fire Department District. Facilities, which should be given priority are those buildings displaying NFPA 704 placards, and hazardous, institutionalized and assembly occupancies. The Town Fire Department should work with local fire code enforcement officials to determine hazards and occupancies. Upon request by the Town, the Moore County Fire Marshal's Office staff shall assist the Town Fire Department in developing pre-fire incident surveys for buildings within the Moore County Fire Marshal's Office fire code enforcement service area.

(14) FIRE INVESTIGATIONS: The Town Fire Department officer in charge at all fire scenes shall attempt to determine the origin and cause of every fire. When the officer in charge cannot determine the origin and cause OR if the cause is suspected to be incendiary in nature, the officer in charge may request a representative from the Moore County Fire Marshal's Office to assist. The Fire Department shall provide whatever assistance is needed by Moore County Fire Marshal's staff at the fire scene.

(15) WATER SUPPLY: The Town Fire Department shall have adopted guidelines that address static water point and fire hydrant testing and maintenance. A current valid copy of the Town Fire Department guidelines shall be available for review by the Moore County Fire Marshal's Office upon request. The Town Fire Department should ensure that every static water point, wet and dry fire hydrant in the Fire Department District is checked for accessibility, functionality, visibility, and operation at least once annually. Records of fire hydrant and static water point tests and maintenance conducted by Fire Department should be kept and be available for review by the Moore County Fire Marshal's Office.

(16) EMERGENCY DISASTER RESPONSE: The Town Fire Department shall work in conjunction with the Moore County and Municipal Emergency Operations Plan and all applicable appendices during a declared disaster.

(17) DISPOSING OF EQUIPMENT: The Town shall dispose of equipment purchased in full or part by service district tax funds in accordance with the North Carolina General Statutes.

(18) PERSONNEL: The Town agrees to adopt and to initiate compliance with, and enforcement of personnel rules for career and part-time members. It will also develop personnel rules for volunteer members.

(19) DRIVER'S LICENSE CHECK: The Town agrees that it will participate in development of a uniform procedure for conducting a review of the driver's license record of each member and employee of the Town fire Department at least once each fiscal year or in accordance with Town policy.

(20) MOORE COUNTY FIRE CHIEF'S ASSOCIATION: The Town Fire Department shall have a representative present at eight of the ten Moore County Fire Chief's Association Meetings held each year.

(21) NIMS: The Town Fire Department shall receive training in accordance with the National Incident Management System (NIMS) directive. This includes but is not limited to ICS 100 and 200 and NIMS 700.

(22) DISTRICT COVERAGE: Should the Town Fire Department choose to participate in events such as out-of district training, parades, competitions, etc., it will ensure that adequate fire protection is available for in the Fire Department District during such time.

(23) ANNUAL INSPECTION: The Town Fire Department agrees to participate in an annual inspection for compliance with the Mutual Aid Equipment Standard as established by the Moore County Fire Chief's Association and the minimum standards established by the North Carolina Department of Insurance to be a rated Fire Department. This inspection will be conducted by the Moore County Fire Marshal's Office.

f. Fees: The Town will furnish said fire protection and emergency services free of charge to all persons and property located within its area of responsibility, except that a fee may be charged for the cost of materials, equipment depreciation, and labor expended in the course of a response to a release or potential release of hazardous substances or large scale events beyond the scope of day-to-day operations in the course of performing under the provisions of this Contract.

g. Use of Funds Provided:

(1) The Town shall hold and use tax monies received under the provisions of this Contract and any property acquired with such monies solely and exclusively to provide for Town Fire Department operations and fire protection and emergency services in the Fire Department District and other areas of response, as dispatched, and to meet the standards of performance as set forth in this Contract. Such use encompasses payment of any necessary and lawful fire protection and emergency services expense including payment of principal and interest in satisfaction of any indebtedness incurred in acquisition of facilities and equipment. Funding provided for fire protection operations by the County and Town shall be fair and equitable to all citizens.

(2) The Town shall use the funds subject to this Contract in accordance with the annual Town Fire Department Budget. The budget may be amended by the Town Board of Commissioners within the funds made available by this Contract, except that the Town shall notify the Moore County Fire Marshall's Office prior to approving any amendments that provide for any expenditure that establishes a new operating expense that will extend beyond the current fiscal year. Further, the Town shall notify the Moore County Fire Marshall's Office when there are permanent changes of staffing levels for paid staff.

(3) The Town agrees to utilize a bidding process for the purchase of fire protection equipment when such process is required by either Town policy or the North Carolina General Statutes. The Town and the County agree that purchase via state contract or "add-on" purchase to a contract competitively bid by another Fire Department operating within the County, or by another North Carolina unit of government meets the requirements of this subsection.

2. Budget Requests:

a. Not later than the end of the business day on the 15th day of March of each year, or the following business day if the 15<sup>th</sup> falls on a weekend or County holiday, the Town shall transmit to the Board of Commissioners of the County, **through the Moore County Fire Marshal's Office**, in such detail and form as may be prescribed by the County Budget Director, a budget request containing the financial needs of the Fire Department for the fiscal year commencing the 1<sup>st</sup> day of July next following, to the extent that such financial requirements are to be satisfied out of Fire District tax revenues. Said

budget request shall be provided on forms approved by the County for budget preparation and presentation.

b. **Should the Town fail to submit its budget request within the above time period, the County shall suspend all funds immediately until the budget is delivered as set forth above.**

3. Accounting:

a. Records:

(1) The Town shall establish and maintain separate, distinct records and accounts for the Fire Department in accordance with generally accepted accounting principles.

b. Annual Audit: The Town agrees to present to the County Finance Office an annual audit and accompanying management letter prepared by a Certified Public Accountant according to generally accepted accounting principles and generally accepted auditing standards for the preceding fiscal year (July 1- June 30) no later than 5:00 PM on the last working day of December of the current fiscal year.

*In the event that the audit or management letter reveals a reportable and/or material issue(s) with regard to compliance with generally accepted accounting principles, the Town shall provide a written statement that contains an explanation of each such issue and an action plan (with implementation timetable) for resolving each such issue, and shall provide periodic reports to the County on progress made in resolution of each issue. If resolution of such issues requires professional advice on the part of the Town's auditor, the Town shall bear the cost of such advice.*

**Should the Town fail to submit its audit report to the County within the above time period, the County shall suspend all funds immediately until the audit report is delivered as set forth above, except that the Fire Marshal may grant a reasonable submittal extension if the Town is unable to deliver the audit for reasons beyond the control of the Town or the Town's auditor.**

c. Inspection: The County may inspect (i) all records and accounts, including but not limited to the financial books and records of the Town Fire Department, which the Town is required to establish and maintain under the provisions of this Contract and (ii) any other documents held by the Town, including but not limited to financial records, information and verifications, as may be reasonably requested by the County. The Town agrees that it will supply for inspection and copying such financial books and records within one week of request, at reasonable, mutually agreeable times during regular business hours of the County.

4. Insurance/Indemnification:

a. The Town shall obtain and keep in force during the term of this Contract the following minimum insurance coverage:

(1) Worker's Compensation: Coverage of all volunteer firefighters and employees for statutory limits in compliance with applicable state and federal laws.

(2) Comprehensive General Liability, Including Medical Malpractice: Coverage with minimum limits of \$1,000,000.00 per occurrence combined single limit for bodily injury liability and property damage liability.

(3) Business Auto Policy: Coverage with minimum limits of \$1,000,000.00 per occurrence combined single limit for bodily injury liability and property damage liability. This shall include owned vehicles, hired and non-owned vehicles and employee non-ownership.



(4) Professional Errors and Omissions, Including Officers and Directors: Coverage with minimum limits of \$1,000,000.00 per claim and \$2,000,000.00 aggregate.

(5) Umbrella Liability: Coverage with a minimum limit of \$1,000,000.00 with underlying coverage of auto liability, worker's compensation/employees' liability and errors and omissions liability.

(6) Fidelity Bonds: A blanket fidelity bond shall be purchased in the amount of not less than \$100,000.00.

b. The Town Fire Department shall make a good faith effort to maintain its current rating with the North Carolina Department of Insurance. Should any part of the Fire Department District have a 9E rating as of the effective date of this Contract, the Town agrees to request an inspection by the North Carolina Department of Insurance to improve this rating within three years of the effective date of this Contract. The Town Fire Department shall continuously comply with all applicable laws, ordinances and regulations. Should the Town Fire Department lose or receives a reduced rating during the term of this Contract, the Moore County Fire Marshal's Office shall examine the case and submit a report to the County Board of Commissioners containing recommendations for corrective action.

## ARTICLE II

The County promises and agrees as follows:

### 1. Fire Department District Budget Ordinance:

a. Not later than the 1<sup>st</sup> day of July of each year this Contract is in effect, the County shall adopt a budget ordinance for said Fire Department District in which sufficient monies will be appropriated to provide fire protection services for said district in accordance with this Contract. The budget ordinance shall be in a form and subject to the directions and limitations prescribed or provided in N.C.G.S. Section 159-13. The County shall provide a copy of the approved budget ordinance to the Town.

b. The County agrees to make funds available to the Town, from the proceeds of the tax levied from the special fire protection service district tax. The amount of such Fire Department District tax levy shall be determined by the Board of the County Commissioners from year to year. For each fiscal year, the funds provided from the Fire Department District tax shall be based on the needs projected in the budget request submitted by the Town and recommended jointly by County Administration and the Moore County Fire Marshal's Office to the Board of County Commissioners and as approved by and deemed necessary by the County Commissioners for furnishing fire protection and emergency services within the Fire Department District. Upon approval of the County's Budget Ordinance, the County shall levy and collect the special tax in the Fire Department District as provided by applicable law.

c. Two separate funds shall be maintained by the County for the funds collected as a result of the Fire Department District tax and Advanced Life Support tax. The County will issue quarterly payments to the Town either electronically or by check.

d. In the event the Fire Department District contains two or more areas of responsibility in which separately incorporated fire departments provide fire protection services, the budget ordinance for the Fire Department District shall be divided into sub-funds, to each of which Fire Department District tax revenues shall be allocated in accordance with the ratio the tax basis of each area of responsibility bears to the total tax basis of the Fire Department District. The transfers and

expenditures authorized in each sub-fund shall be based upon budget estimates from the fire department serving each sub-fund's territory as heretofore provided, but in no event shall the amount of such transfers and expenditures exceed the amount of revenues allocated to each sub-fund.

2. Separate Trust Fund: Fire Service District *ad valorem* tax revenues will be appropriated into the Trust Fund or sub-funds established by the budget ordinance as heretofore provided. Except for transfers to the Town or as may be otherwise provided in Chapter 69 of the North Carolina General Statutes, the County shall not transfer monies from the Trust Fund or sub-funds established in the budget ordinance for the Fire Department District unless the Town Fire Department has ceased to function or the Town is otherwise unable to fulfill its obligations under this Contract. In such event the monies in the pertinent Trust Fund or sub-fund shall be transferred or expended as by law provided.

3. Request for Assistance in Investigations: The County will, upon request made to the County Fire Marshal by the Town Fire Department's Officer in Charge, assist the Town Fire Officer in Charge in fire investigation and with emergency scene assistance services.

### ARTICLE III

The County and Town mutually agree as follows:

1. Duration: This Contract shall be valid and effective from \_\_\_\_ day of \_\_\_\_\_, 2011, subject to the continued legal existence of the Fire Department District and the Town Fire Department, and continue in effect until superseded by a new contract or until terminated as herein provided.

2. Amendment: This Contract may be amended only by mutual agreement of the parties in a written addendum hereto, except that in the event a provision of this Contract becomes inconsistent with any state or local law duly and properly enacted hereafter, then and in that event only, such provision shall be deemed by both parties hereto to be amended to conform with such state or local law without necessity of any further action by either party.

3. Termination:

a. For Cause: At any time during the period this Contract is in effect, either party may terminate this Contract for cause upon breach of or failure to perform said Contract on the part of the other party; such termination becomes effective on the date of such breach or failure to perform, provided that the aggrieved party within after such breach or failure to perform, shall provide written notice specifying such breach or failure to perform and allow the party at fault thirty (30) days within which to cure or correct such breach or failure to perform. In the event the breach or failure to perform is cured or corrected within such period, the Contract shall continue in effect as though such breach or failure to perform had not occurred; in the event there is no cure or correction of such breach or failure to perform within the prescribed time, this Contract shall terminate as heretofore provided.

b. Superseded: In the event this Contract is superseded by a new Contract executed in writing between the parties, this Contract is forthwith terminated.

c. Non-appropriation:

(1) In the event, for reasons beyond the control of the Board of Commissioners of the County or within the lawful legislative discretion of said Board, special *ad valorem*

taxes are not levied in the Fire Department District or tax revenues are not appropriated for the Fire Department District in the Budget Ordinance for any forthcoming fiscal year in which this Contract is to be in effect, this Contract shall be terminated as of the end of the fiscal year for which *ad valorem* property taxes have been levied and tax revenues have been appropriated for the Fire Department District.

(2) Failure of the County and the Town to agree upon the amount of funding for the Fire Department District shall terminate this Contract; such termination becomes effective upon advance written notice from one party, served upon the other party by registered or certified mail, at least ninety (90) days prior to termination.

(3) The County reserves the right to provide the highest level of fire protection and emergency services possible, subject to the availability of funding for this particular purpose.

d. Without Cause: This Contract may be terminated by either party at the end of any fiscal year by giving ninety (90) days prior written notice of its intent to so terminate to the other party by registered or certified mail.

4. No Waiver/Mediation: Failure of the County or the Town to enforce any of the provisions of this Contract at any time, or to request performance by the County or the Town pursuant to any of the provisions of this Contract at any time shall in no way be construed as a waiver of such provisions, nor in any way affect the validity of this Contract, or any part thereof, or the right of the County or the Town to enforce each and every provision. In the event that there is disagreement between representatives of the County and the Town as to the meaning and/or applicability of any section of the Contract, the County and the Town agree to select and share the cost (if any) of the services of a trained community mediator to mediate the disagreement. Mediation shall be non-binding, unless otherwise agreed in writing by the parties.

5. Governing Law: Unless otherwise specified, this Contract shall be governed by the laws of the State of North Carolina. All litigation arising out of this Contract shall be commenced in the appropriate division of the General Court of Justice in Moore County, North Carolina.

6. Successors and Assigns: This Contract may not be transferred or assigned by the Town without the prior written consent of the County.

7. Entire Agreement: The terms and provisions herein contained constitute the entire agreement by and between the County and the Town and shall supersede all previous communications, representations or agreements, either oral or written between the parties hereto with respect to the subject matter hereof; except, that this paragraph shall not be construed to supersede any existing and applicable Automatic Aid Agreements or Mutual Aid Agreements.

8. Headings: The subject headings of the paragraphs are included for purpose of convenience only and shall not affect the construction or interpretation of any of its provisions. This Contract shall be deemed to have been drafted by both parties and no purposes of interpretation shall be made to the contrary.

9. Miscellaneous:

a. This Contract is not intended to serve for the benefit of any third party. The rights and obligations contained herein belong exclusively to the entities which are parties hereto.

b. All notices which may be required by this Contract or any rule of law shall be effective when received by certified mail as follows:

**COUNTY OF MOORE:**  
**ATTN: County Manager**  
**P.O. Box 905**  
**Carthage, NC 28327**

**TOWN:**  
**ATTN: Town Manager**  
**Post Office Box 785**  
**Aberdeen, NC 28315**

IN TESTIMONY WHEREOF, on the date and year first above written, the County has caused this Contract to be executed by the Chairman of the Board of Commissioners of the County, attested by the Clerk to said Board, and the Town has caused this Contract to be signed in its name by its Mayor, attested by its Clerk, and its corporate seal hereto affixed, all by order of its Governing Body duly given.

**COUNTY OF MOORE**

SEAL

By: \_\_\_\_\_  
Nick J. Picerno., Chairman  
Board of Commissioners

Attest:

\_\_\_\_\_  
Laura M. Williams  
Clerk to the Board

**CERTIFICATE OF FINANCE OFFICER**

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

\_\_\_\_\_  
Carrie Neal, Finance Officer

**TOWN OF ABERDEEN**

SEAL

By: \_\_\_\_\_  
Betsy Mofield  
Mayor

Attest:

\_\_\_\_\_  
Regina Rosy, Town Clerk

**CERTIFICATE OF FINANCE OFFICER**

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

\_\_\_\_\_  
Beth Wentland, Finance Officer



## Sample Contract – Rural

### **CONTRACT AMENDMENT FIRE PROTECTION SERVICES**

**North Carolina  
Moore County**

This Contract Amendment is made and entered into this 21<sup>st</sup> day of August, 2008, by and between **County of Moore ("County")** and **CRAINS CREEK VOLUNTEER FIRE DEPARTMENT, INC. ("FIRE DEPARTMENT")**.

WHEREAS, County and FIRE DEPARTMENT have previously entered into an agreement dated the 16<sup>TH</sup> day of October, 2006, for fire protection services ("Original Agreement"); and

WHEREAS, County and FIRE DEPARTMENT desire to amend that Original Agreement by this written Contract Amendment while keeping in effect the terms and conditions of the Original Agreement;

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements made herein, the parties agree as follows:

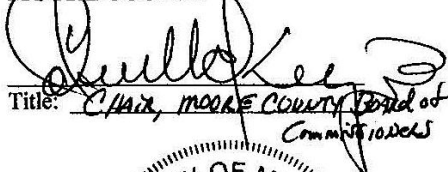
Paragraph (4) b. be changed to read as follows: *Annual Review*: The FIRE DEPARTMENT agrees to present to the County Finance Office through the Moore County Fire Marshal's Office an annual financial review and accompanying management letter according to generally accepted accounting principles for the preceding fiscal year (July 1- June 30) no later than 5:00 PM on the last working day of November of the current fiscal year.

In the event that the management letter reveals a reportable and/or material issue(s) with regard to compliance with generally accepted accounting principles, the FIRE DEPARTMENT shall obtain an audit and provide a written statement that contains an explanation of each such issue and an action plan (with implementation timetable) for resolving each such issue, and shall provide periodic reports to the COUNTY on progress made in resolution of each issue. If resolution of such issues requires professional advice on the part of the FIRE DEPARTMENT's auditor, the FIRE DEPARTMENT shall bear the cost of such advice.

Should the FIRE DEPARTMENT fail to submit its review to the COUNTY within the above time period, the COUNTY shall suspend all funds immediately until the financial review is delivered as set forth above, except that the Fire Marshal may grant a reasonable submittal extension if the FIRE DEPARTMENT is unable to deliver the financial review for reasons beyond the control of the FIRE DEPARTMENT.

The parties have expressed their agreement to these terms by causing this Contract Amendment to be executed by their duly authorized officers or agents. This agreement shall be effective as of the date herein.

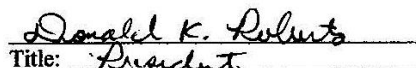
**MOORE COUNTY**

  
Title: Chair, Moore County Board of Commissioners

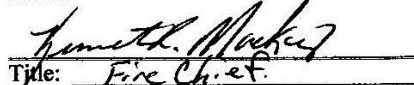
Attest:

  
Title: Deputy Clerk  


**CRAINS CREEK VOLUNTEER FIRE DEPARTMENT, INC.**

  
Title: President

Attest:

  
Title: Fire Chief

**Proposed Contract**

**NORTH CAROLINA)**

**MOORE COUNTY)**

**FIRE DEPARTMENT FUNDING AGREEMENT  
AND AUTOMATIC AID AGREEMENT**

**THIS AGREEMENT**, made and entered this \_\_\_\_\_ day of \_\_\_\_\_, by and between **MOORE COUNTY**, North Carolina, a political subdivision of the State of North Carolina, hereinafter referred to as "County"; and \_\_\_\_\_ **VOLUNTEER FIRE DEPARTMENT**, a political subdivision organized under the laws of the State of North Carolina, having its principal office in Moore County, North Carolina, hereinafter referred to as "Department";

**WITNESSETH:**

**WHEREAS**, the Department has agreed to provide continuing fire protection service within its primary area of coverage, and the other areas on the basis of mutual aid contracts with other County Fire Departments for the benefit of the citizens of Moore County; and

**WHEREAS**, the Department has requested County to assist in the funding of above-described services by collecting and distributing related tax; and

**WHEREAS**, \_\_\_\_\_ authorize County to provide the Department with financial support for the above described services;

**NOW, THEREFORE**, in consideration of the mutual benefits inuring to the parties hereto, and based upon the mutual covenants contained herein and the considerations stated therein, the parties do hereby covenant and agree as follows:

**I. Purpose of Agreement and the Department's Use of Funds**

A. Purpose of Agreement - County shall provide funds to the Department for the provision of continuing fire protection, as follows:

(1) The Department shall provide continuing fire protection service consistent with the levels of equipment, personnel and training required by the North Carolina Department of Insurance to all citizens of the Service District as defined in Exhibit A, maintain through the Office of State Fire Marshal at least a 9E/9S rating for the insurance district, whether 5-mile or 6-mile, covered by the department, and will respond to automatic and mutual aid calls by the County Dispatcher with back-up assistance as called upon, at the Chief's discretion. For purpose

of this Agreement, "Mutual Aid" is defined as requests for assistance when requesting fire department has exhausted all of its available resources and the department called for mutual assistance has available resources to send, as determined by the on-duty supervisor of the squad from which mutual aid is requested.

(2) The Department will respond simultaneously, upon the initial call of a structure fire with the neighboring department in which the Computer Aided Dispatch System (CAD) has identified them as the automatic aid department, with a piece of fire apparatus capable of carrying 1,000 gallons of water or more.

(3) The County shall operate a communication system sufficient to alert the Department and other agencies of fires that occur in the County. The maintenance of Department owned communications equipment is the responsibility of the Department. The County Central Dispatch shall be responsible for the dispatch of the fire departments with their primary, automatic, and mutual aid areas of coverage.

A. Description of the Department's Service Area - The Department's service area is defined in Exhibit A, attached hereto and incorporated herein by reference.

B. Term of Agreement - The term of this agreement shall be from the date of execution through \_\_\_\_\_; provided, however, that in the event no replacement contract is executed covering this service district, this contract shall be extended annually under the same terms and conditions unless it is cancelled by written notice mailed to the other party one hundred eighty (180) days prior to termination. The parties agree to meet and review the contract every third year following the date of execution.

C. Payment - For their services, County agrees to pay to the Department the full amount of fire service district taxes collected from the Department's service area, to be paid on a monthly basis via electronic funds transfer. Effective with the FY 12-13 fiscal year, if the Department does not collect at least \$\_\_\_\_\_ dollars annually in fire service area taxes, then the County will supplement the Department's Fire Tax Collections in order to bring them up to \$\_\_\_\_\_ dollars per annum. The County shall furnish to the Department by October 1st of each year an accounting of all Fire Taxes collected during the preceding fiscal year. Fire district tax funds will not be paid to the Department unless this contract is properly approved, executed, and on file at the Clerk of the Moore County Commissioners, no later than June 30 of the current year.

D. Maintenance of Revenues – Should a revaluation of a Department's fire tax service district result in negative growth value of the district such that revenues received by the department would place an unnecessarily hardship in performing its duties under this agreement, the County will review the Department's budget and consider an adjustment of the tax rate for

that district to maintain its revenue levels. This does not preclude the County from reducing the tax rate should revaluation yield a substantial increase in value for the district.

E. Disposing of Fixed Equipment – The Department shall, prior to the offer thereof to agencies outside of Moore County, offer its surplus equipment to other fire departments within Moore County.

F. Assets Should Department Dissolve - Should the Department voluntarily disband, dissolve or otherwise become unable to provide fire protection service for their service area, or fail to maintain at least a 9E/9S fire insurance rating from the NC Department of Insurance, any and all equipment and other assets acquired by the use of fire district tax funding (in whole or in part) will revert to Moore County, which shall follow the recommendation of the Moore County Fire Commission to the County Commissioners for approval as to final disposition. To protect the service district tax payers, the County Commission will assure that this equipment and other assets will be used for fire protection in the service area formerly served by the Department.

## **II. Minimum Standards**

A. Staffing on Scene – The Department shall maintain standard operating guidelines, which shall be available for review by the Fire Marshal upon request, that address adequate staffing to operate safely on all types of incidents and, as applicable to emergency response services.

B. WCFA/WC Fire Commission – The Department shall use reasonable efforts to ensure the presence of a representative in good standing (as determined by MCFC Executive Board) at eighty percent (80%) of the scheduled meetings of MCFC and MC Fire Commission over a twelve (12) month period.

C. NIMS – The Department shall arrange for the National Incident Management System (“NIMS”) staff training, as required in accordance with Homeland Security Presidential Directive-5 (Management of Domestic Incidents) including, but not limited to, ICS100, ICS200 and NIMS 700.

D. District Coverage – The Department shall, if it chooses to participate in events such as out of district events, ensure that adequate fire protection is available for Fire Department District in its absence.

E. Reporting – The Department shall participate in the National Fire Incident Reporting System (“NFIRS”) and provide copies of its reports, which should be provided by approved electronic format, to the Moore County Office of Emergency Services.

F. Fees – The Department shall furnish its fire protection and emergency services free of charge to all persons and property located within the Fire Department District except that a fee may be charged for the cost of materials, and equipment depreciation, expended in the course of a response, in the course of its obligations under this Contract, to a release or potential release of hazardous substances or large scale events outside of day-to-day operations. The Moore County ordinance entitled Moore County Hazardous Materials Emergency Cost Recovery Ordinance adopted on \_\_\_\_\_, shall govern these fees.

G. Pre-Incident Surveys – The Department should endeavor to develop, and annually update, pre-fire incident surveys for all commercial buildings within the Fire Department District. The County shall direct the Fire Marshal to assist the Fire Department, upon request, in the development of a pre-fire incident survey for buildings within the Fire Department District and within the area for which the Fire Marshal is responsible for enforcement of the applicable fire codes.

H. Fire Investigation – The Department officer in charge shall attempt to determine the origin and cause of each fire. If the officer is unable to determine the origin and cause of the fire, if the cause is suspected to be incendiary in nature, or if there is any injury and/or death from the fire requiring treatment by and transport to a medical facility, the officer shall request the assistance of a representative of the Fire Marshal to provide reasonable assistance thereto.

I. Water Supplies – The Department shall maintain standard operating guidelines, which shall be available for the Fire Marshal upon request, related to static water point and fire hydrant testing and maintenance. All fire hydrant testing shall be done with approval and coordination with the Moore County Utilities or proper water utility prior to any water flowing. The Fire department should ensure, and maintain appropriate records thereof, that each static water point and wet and dry fire hydrant in the Fire Department District is flushed and checked, at least annually, for accessibility, functionality, visibility, and operation.

J. Based upon revised borrowing criteria at the federal level, any request for major capital purchases that require borrowing over \$50,000 should be reviewed by a team of Moore County Finance, Moore County Fire Marshal and Moore County Fire Chief's Association personnel to assure need, assure borrowing is at the best rate available, the cash to debt level is appropriate, and to assure the risk of default is minimal.

K. Based upon state financial management requirements (due to state grants and use of public funds) and annual financial review shall be conducted by the fire department and submitted to the county, as well as an asset listing. This would include a formal detailed ledger from cities to be reviewed by the Auditors.



L. Based upon state financial management requirements (due to state grants and use of public funds) any management comments resulting from the financial review require a response by the fire department to assure compliance.

M. Based upon federal requirements to submit an annual 990 tax filing, each fire department should assure in writing that appropriate policies have been adopted regarding:

- Conflict of interest
- Whistleblower protection
- Records retention

N. Based upon USDA financial management criteria, each fire department should work toward establishing a financial reserve of 3 months operating expenses, which should be accomplished by the year 2016.

O. Based upon county requirements, a budget shall be submitted to the county and adopted, prior to the issuing of any public funds.

P. Based upon state financial management requirements (due to state grants and use of public funds) a dissolution clause shall exist in each fire department's by-laws/articles of incorporation and a copy of these shall be on file in the county OES office, with the contract and be consistent with Section 1E of this agreement.

Q. To assure the most efficient use of public funds in the purchasing process, the Moore County Firemen's Association should establish as a group purchasing program.

### **III. Termination of Agreement; Breach of Agreement**

Each party shall have the right to terminate this Agreement by giving the other party one hundred eighty (180) days written notice of termination. In the event of termination, the Department shall only be entitled to a pro rata share of the fire district tax collected during the fiscal year based on the length of time that the contract was in effect. In the event the Department loses its Department of Insurance certification of meeting a 9S/9E standard, the County may terminate the contract on giving thirty (30) days written notice. In addition, the Department shall provide County with a financial accounting, as required by County, for all funds received by the Department and on hand up to date of termination.

#### **IV. Department Financial Reporting Requirements**

A. Annual Review – Within sixty (60) days of the end of the Department’s fiscal year, which extends from July 1 through June 30, the Department shall provide the County with all the information necessary to complete a full financial accounting or provide the County with a financial review from a recognized CPA firm. If the Department contracts with a separate CPA firm, the audit report is due within one hundred twenty (120) days of the end of the fiscal year.

B. Financial Records - The Department shall establish fiscal control and accounting procedures in accordance with generally accepted accounting principles. The procedures shall account for all funds paid by the County to the Department, and the Department shall maintain such records for three (3) years after the date of termination of the contract.

C. County Access to Financial Records – The Department shall allow the Chairman of the Board or his designee, access to and the right to inspect and copy at reasonable hours and upon reasonable notice, all financial records concerning county funds.

D. Approval of Purchases Requiring Loans/Lease - Debt service shall not exceed 25% of annual tax revenue received from the County without the consent of the Moore County Board of County Commissioners. In order for the County to be aware of all potential financial liability, any asset purchased through a loan or lease process with a financial company must be submitted to the County Finance Officer for certification that the total debt service of the department including the proposed loan does not exceed 25% of the annual tax revenue received from the County. Loans/Leases must be approved by the County Commission in cases where the total debt service will exceed 25% of the annual tax revenue.

E. Purchasing and Financing Bids - The Department shall seek competitive bids for the purchase of materials or equipment for which the cost is estimated to exceed \$30,000 or greater. The Department shall also seek competitive bids on the financing of any equipment, apparatus, or real property to be purchased through financing arrangements.

F. Annual Budget Request - The Department shall furnish to the County on or before April 1 of each year, a proposed operating and capital budget estimating expenditures and revenues for the next budget year beginning July 1, including the proposed district tax rate. The County acknowledges that there may be changes in the proposed budget and final budget based upon actual expenditures and revenues. The Department shall also maintain a Capital Improvement Plan (CIP), which should include capital improvements and capital expenditures (defined as those \$5,000 or greater in cost forecasted for at least five (5) years, in accordance with standards developed by the Fire Department Board of Directors. The CIP shall be submitted annually with the proposed budget.

G. Annual Training Cooperation - The Department agrees to support and work jointly and cooperatively with the Moore County Emergency Management Office NCDOT, Sandhills Community College and MCFC in development of and participation in one or more annual training sessions and in ongoing evaluations of emergency scene performance. The cost of any training shall be funded through the Moore County Emergency Management Office.)

H. Fire Station Construction/Renovation – The Department shall consult with the County Fire Marshal in considering new fire station locations and major renovations where the use of service district tax funds is proposed.

I. Fixed Assets – The Department shall maintain an accurate fixed asset inventory, which shall be available for review by the County, for each piece of equipment with a book value of \$5,000.00 or greater with a life span of (5) five years or more.

## **V. Conflict of Interest Policy**

The Department shall adopt and implement a Conflict of Interest Policy no later than December 31, \_\_\_\_\_. The Department's policy shall conform to the model policy developed and approved by the County OES.

## **VI. Independent Contractor**

The Department understands and agrees that, in entering into this Agreement and providing services, it is acting as an independent contractor. Neither the Department, nor its employees, members nor personnel shall be deemed or construed to be employees of Moore County. The Department shall remain in complete operational control of its vehicles, program, volunteers, assistants and employees. The Department shall be responsible for any on the job injuries to its agents, volunteers, or employees. The Department shall control the hours, manner, and methods of providing fire suppression coverage by their volunteers, employees and all other persons acting in their behalf. The Department shall maintain insurance coverage covering their activities.

## **VII. Indemnity Agreement**

The Department shall indemnify and save harmless Moore County from any and all liability and expenses, including attorney's fees, court costs, and other costs incurred by Moore County as a result of the negligence of the Department, its agents and employees in the performance of this contract.

## VIII. Entire Agreement

This Agreement, with exhibits, constitutes the entire understanding of the parties and contains all of the terms agreed upon with respect to the subject matter hereof. No modification or rescission of this Agreement shall be effective unless evidenced by a writing signed by both parties to this Agreement.

Any prior contracts between the parties hereto are hereby declared null and void as to the parties to this Agreement, save and except any prior agreement which has as its third party beneficiary any financial institution for the purpose of a loan guarantee. The portion(s) of said agreement setting out the loan guarantee shall be incorporated in this contract by reference.

**IN WITNESS WHEREOF**, the parties have hereunto set their hands and seals, by authority duly given, on the date first above written.

**MOORE COUNTY**  
(CORPORATE SEAL)

ATTEST:

BY:

\_\_\_\_\_  
\_\_\_\_\_  
Clerk to the Board of Commissioners

\_\_\_\_\_  
\_\_\_\_\_, Chairman  
Board of Commissioners

I, \_\_\_\_\_, a Notary Public of the State and County aforesaid, certify that personally appeared before me this day and acknowledged that he is Clerk to the Board of Commissioners of Moore County, and that by authority duly given and as the act of the Board, the foregoing instrument was signed in its name by its Chairman, sealed with its official seal and attested by himself as its Clerk.

WITNESS my hand and official seal, this \_\_\_\_\_ day of \_\_\_\_\_, 2011.

\_\_\_\_\_  
Notary Public  
My Commission Expires: \_\_\_\_\_

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**FIRE DEPARTMENT**

(CORPORATE SEAL)

ATTEST:

BY:

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
President

I, \_\_\_\_\_, a Notary Public of the State and County aforesaid, certify that \_\_\_\_\_ personally appeared before me this day and acknowledged that (s)he is Secretary of the \_\_\_\_\_ Fire Department, a non-profit corporation and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its President and attested by him/herself as its Secretary.

WITNESS my hand and official seal, this \_\_\_\_\_ day of \_\_\_\_\_, 2012.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_



## **Personnel & Training**

The departments serving the County collectively indicated an average of approximately 25 members responding per call. Based on the fact that at least two departments are generally dispatched to structure fires and assuming two departments or units are dispatched to all other calls, this represents a standard response that meets or exceeds expected response staffing of the NFPA 1720 standard to begin initial operations.

The departments providing staffing information as follows:

<b>Department</b>	<b>Part-Time Paid</b>	<b>Volunteers</b>	<b>Full-Time Paid</b>
Aberdeen F&R – Station 41	0	4	32
Carthage F&R – Station 31	18	35	1
Cypress Point F&R– Station 21	12	11	0
Cypress Point F&R – Station 22	11	11	0
Cypress Point F&R – Station 24	11	11	0
Crains Creek VFD Station 23	7	17	1
Crestline VFD Station 72	0	14	1
Eagle Springs VFD Station 62	2	28	1
Eastwood VFD - Station 52	4	34	0
Highfalls F&R – Station 12	2	30	0
Pinebluff FD - Station 71	12	12	1
Pinehurst FD - Station 91	3	0	20
Pinehurst FD - Station 92	2	0	10
Robbins FD - Station 11	1	29	1
Robbins Rescue Squad – Station 10	0	24	0
Seven Lakes EMS - Station 69	2	20	1
Seven Lakes VFD - Station 63	8	26	0
Southern Pines F&R Dept – Sta 81	8	8	26
West End F&R – Station 61	6	12	6
West End F&R – Station 61 Foxfire	4	10	2
Westmoore VFD - Station 14	0	24	1
Whispering Pines FD - Station 51	10	31	2

The departments all indicated a challenge in recruiting and retaining members in their respective organizations.

Personnel represent the most significant resource of the fire departments' services. Without trained people who are willing to respond to emergencies, raise funds, perform maintenance work, and train, there would be a mammoth challenge to assuring the safety of the people and properties of the township. Unfortunately, like many similar communities, less time to volunteer, more calls, more required training, and expanded fund raising needs are all reported to be situations challenging the staffing of the companies.

Using the basic data of 4 responders (assuming 2 part-time paid and 2 volunteers) on two responding units, a cost savings calculation can be made to determine the savings to the taxpayers of Moore County, by using a volunteer component to their combination system. The National Volunteer Fire Council's (NVFC), Volunteer Fire Service Cost Savings Calculator, computes this savings (for salaries and benefits of firefighter/EMTs) to be in excess of \$4,204,800 annually to Moore County. The NVFC Cost Savings Calculator was created by St. Joseph's University Graduate Program in Public Safety and Environmental Protection with the following objectives:

- develop a model to calculate the cost savings of an emergency service organization
- develop a model power-point slide presentation for an emergency service, organization to use with elected officials and public groups to promote their service and the value created by the service, and
- develop a projection of annualized savings of volunteer Emergency Service Organizations within the United States.

The study found the savings, nationwide, to be \$37 billion. The program and additional information can be found at [www.nvfc.com](http://www.nvfc.com).

The question was asked how Retention and Recruitment activities are conducted. There was no structure to the process, individually or collectively. However, three items in use were found to be extremely positive. These included outside signs, the use of an Internet website, and placement of website addresses on fire apparatus.

While the departments indicated they conduct a variety of activities, they gave no baseline for goals, expectations, or consolidated approach to the process of recruitment and retention. Without a comprehensive approach to recruiting and retaining members, which is local in design and responsive to members needs, the continuation of any volunteer system is questionable.

In today's world, whether an organization is totally volunteer, a combination services or paid/career; recruiting and retaining quality personnel is challenging, time consuming and critical to sustaining effective operations.

As part of this project, the following information was developed to assist the fire departments of Moore County in enhancing their recruitment and retention efforts. Recruiting members to meet the needs of the organization and then keeping those individuals involved in the service is critical to sustaining the value brought to the community through neighbors helping neighbors.

The following chart provides an approach for use by the departments to plan its recruitment and retention activities. A reference text with support details and other useful tools for implementation is provided under separate cover.

## 2014 – 2015 Recruitment and Retention Plan

Activity	Timing	Resource & Location	Responsibility	Status
1. Assign a Recruitment & Retention Committee, and develop benchmarks for success	1/14	Use program criteria from support documents		
2. Implement Everyone Get One Campaign	1/14 through 4/14	Use program criteria from support documents		
3. Conduct Junior Firefighter Recruiting Drive in High School	1/14	Use program criteria from support documents		
4. Determine other possible initiatives from Volunteer Recruitment & Retention Manual” provided	2/14	“USFA Recruitment and Retention Manual”		
5. Poll members of additional incentives of interest to members	3/14	Use program criteria from support documents		
6. Implement incentives of interest to members	6/14 through 12/14	Local Sources		
7. Develop budget for 2015 Recruitment & Retention Initiatives	9/14			
TBD – local issues				
TBD – local issues				
TBD – local issues				
Create 2016 plan based on success and failure in 2015	12/14			

Personnel information maintained by each fire company is not consistent. A common set of informational components and a standardized format should be developed, including what should be maintained electronically and what should be maintained in paper fashion. Copies of these records should be maintained by a designated individual to which documents in each department. For example, there are no minimum standards to which documents should be maintained in personnel files. A proposed recommendation is provided as well as samples forms (under separate cover).

Basic Training is considered to include:

- State required 36 hours of annual training
- Structural burn (NFPA 1403) training
- Required NIMS training
- Chief 101 Certification

It was indicated by most departments that Firefighter I Certification (national) is encouraged.

A discussion was held with the Director of the Moore County Community College Public Safety Program and the Coordinator for Fire Services Training. These individuals were found to have an excellent working knowledge of the system, its value, the needs and the gaps that need to be filled going forward.

It was reported that in 2012 firefighter training in the county, included a variety of state certified courses as well as courses deemed of interest by the fire department officers. The connection to the county fire chiefs and Moore County Fireman's Association is critical to assure future training is of the utmost value to those providing service to the county's residents and visitors.

### **Sandhills Community College, Larry R. Caddell Public Safety Training Center.<sup>5</sup>**

Fire departments, rescue squads and police officers serve every community. Each of these agencies have very specific training needs in order to prepare personnel to face the challenges they could encounter. Whether it is a structure fire, vehicle extrication, high angle fire, hostage incident or other crisis, it can be difficult to duplicate realistic and effective training in a local station.

When county fire, rescue and police personnel needed specific training or practice, they were forced to use facilities in other counties or at other community colleges, often having to travel great distances.

An Emergency Services Training Facility Committee was formed several years ago to explore the possibility of building a training facility in Moore County. The committee consisted of individuals associated with public safety and college personnel. They toured sites throughout the state and sought answers to many questions. The group looked for both positives and negatives at these locations and later worked closely with an architect to design a local facility that would meet the county's needs now and for many years to come.

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<sup>5</sup> "Sandhills Community College, Larry R. Caddell Public Safety Training Center", Career Focus, Sandhills Community College, Volume 4, Issue 2, pages 6-7

The funds for this facility came from the 2000 State Bond Referendum and the 2007 Moore County Bond Referendum. It is located on 39.28 acres on the Niagara-Carthage Road near Carthage.

Fire Chief of Cypress Pointe Fire/Rescue and Deputy Chief of Southern Pines Fire/Rescue Mike Cameron was a member of the committee responsible for the facility. He stated, “This facility will allow emergency responders from Moore County and the surrounding areas to enhance existing skills and to develop new ones. But equally as important, because the leaders from both the county and the college have supported this facility from its inception to completion, they have had a hand in developing the future of emergency response in Moore County.

Emergency personnel must be able to think critically and clearly and solve problems quickly under extreme stress. The Larry R. Caddell Public Safety Training Center will allow emergency responders to regularly schedule realistic training exercises with minimum preparation time.

### **Residential Burn Building**

The burn building is a 2,280 square-foot, one-half story residential-type structure that can be used for multiple evolutions such as: fire attack on both first floor and second floor; forcible entry prop; a vertical ventilation prop on the roof that allows crews to practice smoke removal; Rapid Intervention Crew techniques; firefighter safety and survival procedures; firefighter accountability; fire ground ladders; and many more exercises.

### **Drill Tower**

The drill tower is a 5,372 square-foot four-story building that has numerous training exercises built into it: rappelling can be carried out from multiple locations; confined space props allow instructors to train responders and industrial users to operate and/or rescue victims in confined space incidents; a prop for high line training used to teach and practice moving victims from high ground to a lower point in a controlled manner; an elevator rescue area; and a fire department connection to practice hose handling in a multi-story building. Law enforcement personnel will use the tower for suspect searches and building clearing exercises.

### **Control Tower**

The control tower is where monitoring of activities on the training grounds can be carried out, and burns can be controlled. It is an 855 square-foot two-story structure with a public address system that can transmit audio throughout the entire area.

### **Drafting and Auto Extrication/Burn Pits**

A drafting pit, located next to a pond, is available for service testing of pumpers and pump operations training. Near the drill tower is an auto extrication/burn pit where rescue workers will train to remove victims trapped in vehicles and for vehicle fire training.

### **Future Plans**

Future phases of this facility depending on funding, would include an apparatus/classroom building that will house fire and rescue vehicles for training purposes, an indoor firing range for law enforcement training, a multi-story commercial burn building and a driving track where all emergency services groups can practice driving skills.



### **Emergency Services Safety & Education<sup>6</sup>**

No two days are ever the same for public safety workers. Whether they are battling a devastating house fire, rescuing people after a tragic disaster, treating patients at the scene of a car crash, or investigating the cause of a fire, these professionals are selfless workers who are dedicated to saving lives and protecting our community.

Sandhills Community College serves the educational and training needs of law enforcement, fire and rescue, and emergency medical personnel through both Continuing Education and the Curriculum (college credit) divisions.

### **Fire & Rescue**

Sandhills Community College offers courses each semester through Continuing Education for volunteer and professional firefighters and rescue personnel. Training consists of in-service training as well as state certification through the Office of the State Fire Marshal in North Carolina. Examples of classes are live burn training, arson detection and hazardous materials classes. Instructors are certified through the state of North Carolina and hold professional or volunteer status with vast experience in fire and rescue.

### **Emergency Medical Services (EMS)**

From initial certification to refresher courses, the Division of Continuing Education at Sandhills Community College provides education for the local medical community. Classes are in coordination with Moore County EMS and are taught at a variety of locations throughout Moore and Hoke Counties for both Advanced Life Support and Basic Life Support providers.

The college and the counties of Moore and Hoke have developed an effective procedure for EMS recertification. A scope of practice examination and a review of paperwork for the hours needed to recertify are held at the college. We help individuals prepare the paperwork to assure they completed all the house required to recertify in advance of their expiration date.

The college also organizes monthly workshops at local fire departments and rescue facilities.

### **Emergency Medical Science Program**

The college offers an Associate in Applied Science degree in Emergency Medical Science. This program takes a little less than two years to complete and is designed to prepare graduates to enter the workforce as paramedics. Students progressing through the program may be eligible to apply for both state and national certification exams. Employment opportunities include rescue agencies, air medical services, specialty areas of hospitals, industry, educational institutions, and government agencies.

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<sup>6</sup> “Emergency Service & Safety Education”, Career Focus, Volume 4, Issue 2, Page 5

### **Annual Seminar**

The college hosts an annual Sandhills Emergency Services Seminar each January. This weekend of workshops and activities provides participants with an opportunity to obtain firefighter certification, strengthen existing skills, learn new techniques and methods, and participate in sessions that are interactive and dynamic.

The college offers certification courses for the use of Radio Detection and Tanging (RADAR), Light Detection and Ranging (LIDAR), General Instructor, and Detention Officer as mandated by the MC Department of Justice.

### **Basic Law Enforcement Training (BLET)**

The Basic Law Enforcement Training program utilizes State-Commission-Mandated topics and methods of instruction. General subjects include, but are not limited to, criminal, juvenile, civil, traffic, and alcoholic beverage laws; investigative, patrol, custody, and court procedures; emergency responses; and ethics and community relations.



Existing County Burn Building



Pump Testing Pad



There is limited recruitment and retention conducted, however one station is active in their efforts using this promotional unit at events.

### **RECOMMENDATIONS (as previously noted in the Executive Summary)**

- 13-22 Locally, in each agency, develop a recruitment and retention plan.
- 13-23 Standardized data for inclusion in personnel files should be established.
- 13-24 Due to the new training facility, each department should, contact the NCOSFM for re-evaluation of the NC-DOI(ISO) recommendations for Training and in concert with the Moore County Fire Chief's Association, determine the potential to receive full NC-DOI(ISO) credit and enhance the administrative aspects for class and program operations.

## Operations

To assist in the evaluation of operational practices, each fire department in Moore County was asked to complete a self-assessment process, using NFPA 1710/1720, the Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Fire Departments as the baseline. The assessment tool was developed by VFIS in concert with the International Association of Fire Chiefs Volunteer Combination Officer Section. This assessment tool is nationally recognized as a tool to determine achievement of various recognized fire service benchmarks.

This standard was developed to identify minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and volunteer fire departments. Approximately three of every four fire departments in the United States are volunteer; therefore this standard as well as related practices (accreditation, certification, etc.) have a profound effect on the direction of the volunteer fire service.

The standard does NOT include Fire Prevention, Community Education, Fire Investigations, Support Services, Personnel Management, and Budgeting.

This standard may, in the minds of some create a benchmark to aspire and plan to. To others, it represents a minimum baseline. To others it will serve as an expectation that contracted services must meet or plan to meet. In reality the standard will mean different things to different entities because a key section indicates, “The Authority Having Jurisdiction determines if this standard is applicable to their fire department”.

Therefore, the first question to ask and resolve is whether or not the Authority Having Jurisdiction (AHJ) will use/apply the standard. The AHJ will vary by municipality/district/etc. applying this standard.

The next step is to determine how the organization meets the “substantially volunteer” definition. There is no defined calculation method or model; thus, you may establish your criteria based on:

- Number of volunteers versus number of paid staff.
- Hours contributed by volunteers versus number of hours worked by paid staff.
- Average response (number of persons) by volunteer staff versus paid staff, or any similar calculations process.

It should also be recognized that this standard recommends a predefined approach in some cases, where an “equivalency” may occur locally. If there is an equivalency, documentation of how that is achieved is warranted. There is an intent in this standard to enhance effectiveness and efficiency, even though they may not be compatible at all times. The intent of this guide and your evaluation and assessment should be to determine gaps and establish a plan to close those gaps over time.

As you review the NFPA 1720 document and this implementation guide you will quickly notice that there are enhanced expectations for volunteer units in organization, communication,

planning documentation and scheduling; in some ways being modeled after career services. These can be narrowed to six key critical criteria, in addition to defining the level and type of services to be provided; as well as assuring a training program is in place to achieve performance competency.

The comparison document illustrates that the strengths and weakness of each fire company are different. As such, this report attempts to provide a snapshot of fire protection from the county's perspective, looking at the strengths and weaknesses of each department and comparing them to fire service standards. It should be noted that all parts of the assessment were completed by the individual fire departments.

Completing this self review is simple and straight forward. In order to help ensure accuracy, it is advisable to utilize the actual NFPA 1720 document in conjunction with the self review. This document is designed to assist departments in understanding and initiating the review process to determine key areas requiring action by the fire department. Many of these components can be achieved in a variety of ways. It is up to each agency to determine how achievement is measured. Simply indicating compliance with this document does not validate compliance. Appropriate support detail must be collected and maintained, and assurance made that any related references within the standard are complied with.

This matrix is not intended to replace or assure compliance with NFPA 1720, (2007 Edition). A copy of the entire NFPA 1720, including the appendices and related introductory detail, can be obtained from the National Fire Protection Association at [www.nfpa.org](http://www.nfpa.org).

A summary document follows, illustrating how each fire department has achieved the various criteria. The categories are rated as "Attains", "Partially Attains", or "Fails to Attain", based on the review of various best practice implementation in each criteria.

These include (Section Criteria from NFPA 1720 is noted in parentheses):

## **Fire Suppression Organization**

Are fire suppression operations organized to ensure the fire department's suppression capability includes sufficient resources to efficiently, effectively and safely deploy fire suppression resources? (4.1\*)

Has authority having jurisdiction promulgated the fire department's organizational, operational, and deployment procedures with written regulations, orders, and standard operating procedures/guidelines? (4.1.1\*)

Do fire department SOP's clearly state succession of command responsibility? (4.1.1.1\*)



## **Community Risk Management**

The fire department shall participate in a process that develops a community fire and emergency medical services risk management plan (4.2\*)

The specific role of the fire department and other responding agencies shall be defined by the community risk management plan. (4.2.1)

The number and type of units assigned to respond to a reported incident shall be determined by risk analysis and/or pre-fire planning. (4.2.2\*)

Has the fire department participated in development of a community risk management plan regarding associated risks with storage, use and transportation of hazardous materials? (4.2.3.1)

Does the plan define the role of the fire department and other agencies for hazardous materials operations management as well as including other special operations? (4.2.3.2)

## **Fire Suppression Organization**

Has the fire department identified minimum staffing requirements that ensure sufficient numbers of members are available to operate safely and efficiently? (4.3.1)

Table 4.3.2 indicated in Critical Criteria Assessment 11 completed by AHJ to determine staffing and response time capabilities, and the federal accomplishment for reporting purpose (4.3.2\*)

After assembling necessary resources at emergency scene, does fire department have the capability to safely initiate the initial attack within 2 minutes 90 percent of the time? (4.2.2.1)

Are fire department personnel responding to emergencies:

1. Organized into company units or response teams?
2. Equipped with appropriate apparatus & equipment? (4.3.3\*)

Do standard response assignments (including mutual aid response and mutual aid agreements) predetermined by location and nature of reported emergency regulate the dispatch of companies, response groups and command officers to emergency incidents? (4.1.7\*)

Does fire department maintain standard reports for each response that contain:

1. Nature?
2. Location?
3. Description of ops performed?
4. Identification of members responding? (4.4.1\*, 4.4.1.1, 4.4.1.2)

## **Annual Evaluation**

Does the fire department evaluate its level of service, deployment delivery and response time objective on an annual basis? (4.4.2.1)

Annual evaluation shall be based on data relating to level of service, deployment, and the achievement of each response time objective, in each demand zone, within the jurisdiction of the fire department? (4.4.2.2)

## **Quadrennial Report**

Does the fire department provide the AHJ with a written report, quadrennially, that shall be based on annual evaluations required by (4.4.3.1)?

Does the report explain the predictable consequences of identified differences and address steps within a fire department strategic plan necessary to achieve compliance? (4.4.3.2)

Standard response assignments and procedures, including mutual aid response and mutual aid agreements predetermined by location and nature of reported incident, shall regulate dispatch of companies, response groups, and command officers to fires and other emergency incidents.

## **Fire Suppression Operations**

Do SOP's require one individual assigned as the incident commander (IC)? (4.5.1\*)

Do SOP's require the assumption of command to be communicated to all units involved in the incident? (4.5.1.1\*)

Do SOP's require the IC to be responsible for overall coordination & direction of all activities for the duration of incident? (4.5.1.2)

Do SOP's require the IC to ensure an accountability system is immediately established to ensure rapid accounting of all on-scene personnel? (4.5.1.3)

Do SOP's require the company officer/crew leader to be aware of the identity, location, & activity of each member assigned to the company at all times? (4.5.2)

Do SOP's require the company members to be aware of the identity of the company officer/crew leader? (4.5.2.1)

## **Initial Attack**

Are orders to crew members, particularly verbal, and those at emergency scenes transmitted through the company officer? (4.5.2.2)

Are initial attack ops organized to ensure that at least four members are assembled before initiating internal fire attack at a working structure fire? (4.6.1\*)

Do two members work as a team while in a hazardous area? (4.6.2)

Do SOP's provide for the assignment of two members outside a hazardous area to assist a rescue team operating within the hazardous area?

1. One of these rescue team members is permitted to engage in other activities (4.6.3)
2. Members performing critical tasks, that if abandoned to perform rescue, would endanger any firefighter operating at the incident, are prohibited from assignment to the two-person rescue team. (4.6.4)

Where immediate action could prevent loss of life or serious injury, are initial attack ops organized to ensure that first arriving attack personnel who find an imminent life-threatening situation take appropriate action (even with less than 4 personnel on-scene) in accordance with NFPA 1500<sup>7</sup>? (4.6.5)

Beyond the capability of the initial attack, can the fire department provide for sustained operations including:

1. Fire suppression?
2. Search & Rescue?
3. Forcible entry?
4. Ventilation?
5. Preservation of Property?
6. Accountability of personnel?
7. Dedicated Rapid Intervention Team (RIT)?

Support activities beyond capabilities of initial attack? (4.6.6)

## **Intercommunity Organization**

Are mutual aid, automatic aid and other fire protection agreements in writing and complete, including issues such as:

1. Liability for deaths and injuries?
2. Disability retirements?
3. Cost of services?
4. Authorization to respond?
5. Staffing and equipment?
6. Resources made available?

Designation of incident commander (IC)? (4.7.1\*)

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<sup>7</sup> NFPA 1500 – Standard on Fire Department Health and Safety Program

Are procedures and training of personnel for all fire department's involved in agreements sufficiently comprehensive to produce an effective fire force and insure uniform operations? (4.7.2)

Are units responding to mutual aid incidents equipped with communications equipment to permit communications with IC, division, group and/or sector officers? (4.7.3)

## **Emergency Medical Services**

Are EMS services organized to ensure fire department's EMS capability includes sufficient resources to deploy initial arriving company and additional alarm assignments? (4.8.1.1)

Automatic and mutual aid agreements are permitted to satisfy this requirement. (4.8.1.2)

The provisions of this chapter apply to fire department's that provide EMS services. (4.8.2\*)

Has the fire department clearly documented its role, responsibilities, functions & objectives for EMS delivery? (4.8.3\*)

## **System Components**

Basic EMS system treatment levels as used in this standard are categorized as:

1. First responder.
2. Basic Life support (BLS)
3. Advanced life support (ALS) (4.8.4.1)

Specific treatment capabilities associated with each level are determined by authority for approval and licensing of EMS providers in each state and province. (4.8.4.2)

## **EMS System Functions**

Determine the fire department's level of EMS service delivery. The four basic functions within an EMS system include:

1. First responder
2. BLS response
3. ALS response
4. Patient transport with uninterrupted patient care at ALS or BLS levels while enroute to medical facility

EMS quality assurance program. (4.8.5.1)

Is the fire department involved in providing any or all of the functions identified in 4.4.3.1(1) thru 4.4.3.1 (5)? (4.8.5.2)

## **Quality Management**

Does the fire department have a quality management program? (4.8.6.1)

Is first responder and BLS care provided by the fire department documented & reviewed by fire department medical personnel? (4.8.6.2)

If ALS is provided, does the fire department have a named medical director who oversees and assures quality medical care in accordance with state or provincial regulations?

Is process documented? (4.8.6.3)

If ALS is provided, does the fire department provide mechanism for immediate communications with EMS supervision and medical oversight? (4.8.6.4)

## **Special Operations Response**

IF PROVIDED, are the fire department's special operations (special ops) organized to insure special ops capability includes sufficient:

1. Personnel
2. Equipment
3. Resources

To deploy the initial arriving company and additional alarm assignments providing such special ops services? (4.9.1.1)

Established automatic and mutual aid agreements are permitted to comply with these requirements. (4.9.1.1)

Has the fire department adopted a special operations response plan and related standard operations procedures (SOP's) that specify:

1. Role and responsibilities of the fire department in special operations?
2. Authorized functions of members responding to HazMat incidents? (4.9.3)

Are the fire department members expected to respond to HazMat incidents beyond first responder operations level trained to applicable requirements of NFPA 472<sup>8</sup>? (4.9.4)

Does the fire department have the capacity to implement RIT during special operations incidents that would subject firefighters to immediate danger of injury, or in the event of equipment failure or other sudden events per NFPA 1500<sup>9</sup>? (4.9.5)

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<sup>8</sup> NFPA 472-Standard for Professional Competence of Responders to Hazardous Materials Incidents

<sup>9</sup> NFPA 1500-Standard on Fire Department Occupational Safety and Health Program

If a higher level of response is needed beyond the capability of the fire department for special ops, does the fire department have procedures to determine:

1. Availability of outside resources to deploy these capabilities
2. Method of contact and response
3. Integration with local resources? (4.9.6.1)

Do procedures limit the fire department to performing only those specific special ops functions for which their personnel are trained and equipped? (4.9.6.2)

## **Safety & Health Systems**

Does the fire department provide occupational safety and health programs in accordance with NFPA 1500<sup>10</sup> that forms the basic structure of protecting the health and safety of firefighters, regardless of the scale of the department or emergency? (5.1\*)

## **Incident Management System**

Does the fire department provide an incident management system in accordance with NFPA 1561 that forms the basic structure of all emergency ops regardless of scale of department or emergency? (5.2.1)

Is incident management system designed to manage incidents of all different types, including structure fires, wildland fires? haz-mat incidents, emergency medical operations and others? (5.2.2)

Does the fire department have a training program and policy to ensure that personnel are trained and their competency is maintained to execute their responsibilities consistent with fire department's organization and deployment addressed in Chapter 4? (5.3)

## **Communication Systems**

Does the fire department have a reliable communication system to facilitate prompt delivery of fire suppression, EMS, and special operations? (5.4.1\*)

Do the fire department's communications facilities, equipment, staffing and operation procedures comply with NFPA 1221<sup>11</sup>? (5.4.2)

Do operating procedures for radio communications provide for standard protocols and terminology at all types of incidents? (5.4.3)

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<sup>10</sup> NFPA 1500-Standard on Fire Department Occupational Safety and Health Program

<sup>11</sup> NFPA 1221-Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems



In compliance with NFPA 1561, is standard terminology established to transmit information including:

1. Strategic modes of operation?
2. Situation reports?

Emergency notifications of imminent hazards? (5.4.4)

The 911 dispatch and communication system currently being implemented in Moore County is an enhanced 911 system, similar to state of the art communication systems being installed throughout the United States. The system hardware and software are provided by reputable vendors in the industry. Costs were shared between grants and county funding. The system is capable of providing a number of dispatch enhancements which should benefit the public safety of Moore County. This includes the use of Emergency Medical Dispatch, Emergency Fire Dispatch and Emergency Law Enforcement Dispatch protocols. It must be recognized that while a plan was implemented to obtain and distribute radios and related equipment, that deals with the initial distribution. A plan for replacement and expansion needs to be implemented as well.

### **Pre-Incident Planning**

Does the fire department have operational requirements to conduct pre-incident planning, with particular attention to target hazards? (5.5)

**In summary, the project team identified six areas of consideration for action.**

1. ANNUAL EVALUATION - Several fire departments indicated they are not conducting any type of annual evaluation.

Each agency should conduct some type of annual evaluation, if only to determine what equipment is needed, what personnel issues exist, what short and long range needs exist, etc. Without conducting an annual review, planning cannot effectively be established and facilitated, making budgeting, staffing, and performance more challenging.

2. QUADRENNIAL REPORTS – Again, several departments indicated they are not conducting multi-year reporting and analysis. However, there were a few departments that had developed excellent multi-year strategies; none of these were integrated into any long range countywide strategy.
3. FIRE SUPPRESSION – Several fire departments indicated less than fully attains in fire suppression operations, which leads to an opportunity for planning, training, and performance standards to be established in the area of fire suppression operations.
4. INCIDENT MANAGEMENT SYSTEM – There were several departments indicating lack of full compliance with this section. Further analysis found that this was attributable to not having completed all of the required classes on the National Incident Management System.

5. SAFETY AND HEALTH – While indicated as very important, several of the departments indicated they do little to support firefighter safety and health, other than to provide personal protective equipment to the best degree possible.
6. PRE-INCIDENT PLANNING – Though recognized as important, there was little activity in pre-incident planning and development of formal pre-plans.

	Aberdeen F&R	Carthage F&R	Crains Creek Fire	Crestline Fire	Cypress Pointe F&R	Eagle Springs Fire	Eastwood Fire	Highfalls F&R	Pinebluff Fire	Pinehurst F&R	Robbins Fire	Robbins Rescue	Seven Lakes F&R	Seven Lakes EMS	Southern Pines F&R	West End F&R	Westmore Fire	Whispering Pines F&R
Organization / Operations / Deployment	PA	A		A		A	A	A			A	PA	PA		A	PA	A	FA
Community Risk Management	PA	PA		PA		PA	PA	PA			PA	PA	PA		PA	PA	A	FA
Fire Department Suppression	PA	PA		PA		PA	PA	PA			PA	N/A	PA		PA	PA	PA	PA
Annual Evaluation	PA	FA		PA		A	FA	PA			PA	FA	PA		A	PA	FA	PA
Quadrennial Report	FA	PA		PA		PA	PA	PA			PA	FA	FA		FA	FA	FA	FA
Fire Suppression Operations	PA	PA		PA		PA	PA	PA			PA	N/A	A		A	PA	PA	PA
Initial Attack	PA	A		PA		PA	PA	PA			PA	N/A	PA		A	PA	PA	PA
Intercommunity Organization	PA	A		PA		PA	PA	PA			PA	A	A		A	PA	PA	PA
Incident Management System	PA	A		PA		A	PA	PA			PA	PA	A		A	A	PA	PA
Special Operation Response	PA	PA		PA		PA	PA	PA			PA	PA	PA		PA	PA	PA	PA
Safety & Health	FA	A		FA		PA	PA	PA			PA	FA	FA		A	A	PA	FA
Communication Systems	PA	A		PA		PA	PA	PA			PA	PA	PA		A	A	A	PA
Pre-Incident Planning	FA	PA		PA		PA	PA	PA			PA	FA	A		A	A	A	PA

## FIRE DEPARTMENT NFPA STANDARD 1720 SELF-ASSESSMENT SUMMARY

**A = Attains    PA = Partly Attains    FA = Fails to Attain**

As noted earlier, the fire department operates as a whole under long-standing procedures, using mutual aid, automatic aid, and standard operating practices. This culture and tradition has built organizations that have performed as needed for the community for decades. The delivery system for fire, rescue and emergency medical services, as well as the fire department response models have not been integrated into a single, seamless delivery system. As a result, there is no assurance the closest fire station(s) always are dispatched and that the same level of response is provided for similar types of incidents.

The changing demands and expectations on emergency services, creates conflicts in performance and develops potential operational and liability issues.

The same scenario exists with standard operating guidelines. There were multiple cases where two and three departments respond together, yet they use standard operating guidelines developed for individual fire company needs and are not coordinated for use despite the fact that the organizations run together on the majority of incidents. This will be addressed later in this report.

To determine the operational needs of the fire department, there must first be an understanding of the hazards being faced. There is no community risk analysis at this time, so it becomes important to gain as much an understanding of the hazards posed as possible. This can be done by analyzing response data, defining and inventorying what are considered major or target hazards, and developing plans to deal with these hazards individually and comprehensively.

Risk Analysis was found to be left to each department to conduct on their own.

The primary mission of fire departments, since their inception, was fire suppression and the primary tool to suppress fire was and remains water. Therefore, once target and routine hazards are analyzed, water supply becomes the first point of consideration. The ISO reports evaluate water supply and availability and is addressed in the report. Essentially departments are required to have one or more pumpers and one or more tankers to provide such water at the time of a fire. Today, a common practice is for departments to conduct pre-emergency planning should consider water supply required versus water supply available to determine any gaps and how that water should be provided to the scene, or the related risks that must be managed as a result of a less than needed water supply. Once the water supply needed and available to suppress fires in the community is defined, one can move on to the demand for operational staffing, apparatus, stations, and their respective positioning and availability. A sample pre-planning form is provided as Appendix 5 for consideration of use.

While the county provides financial support to each agency and other support in a variety of ways, the “system consistency” needs to be addressed to assure citizens will receive a standard of care throughout the county. This should include policies on the standardized box alarm concept using the closest fire stations. This should be consistent with the Service Delivery Statement/Standard of Response Cover as recommended in the Management Section of this report.

### **RECOMMENDATIONS (as noted in the Executive Summary)**

- 13-25 Using identified gaps in current performance, develop a comprehensive approach to enhancing operations using identified operational expectations established by NFPA Standards 1710/1720. Develop actions locally to enhance local agency performance and interoperability.
- 13-26 Robbins Rescue should complete the requirements for serving as a heavy-rescue agency within 1 year (by 12/31/13) or services and county equipment should be transitioned to an agency that will commit to the provision of these services. (See Recommendation 13-04)

	Aberdeen F&R	Carthage F&R	Crains Creek Fire	Crestline Fire	Cypress Pointe F&R	Eagle Springs Fire	Eastwood Fire	Highfalls F&R	Pinebluff Fire	Pinehurst F&R	Robbins Fire	Robbins Rescue	Seven Lakes F&R	Seven Lakes EMS	Southern Pines F&R	West End F&R	Westmoore Fire	Whispering Pines F&R
Organization / Operations / Deployment	PA	A		A		A	A	A			A	PA	PA		A	PA	A	FA
Community Risk Management	PA	PA		PA		PA	PA	PA			PA	PA	PA		PA	PA	A	FA
Fire Department Suppression	PA	PA		PA		PA	PA	PA			PA	N/A	PA		PA	PA	PA	PA
Annual Evaluation	PA	FA		PA		A	FA	PA			PA	FA	PA		A	PA	FA	PA
Quadrennial Report	FA	PA		PA		PA	PA	PA			PA	FA	FA		FA	FA	FA	FA
Fire Suppression Operations	PA	PA		PA		PA	PA	PA			PA	N/A	A		A	PA	PA	PA
Initial Attack	PA	A		PA		PA	PA	PA			PA	N/A	PA		A	PA	PA	PA
Intercommunity Organization	PA	A		PA		PA	PA	PA			PA	A	A		A	PA	PA	PA
Incident Management System	PA	A		PA		A	PA	PA			PA	PA	A		A	A	PA	PA
Special Operation Response	PA	PA		PA		PA	PA	PA			PA	PA	PA		PA	PA	PA	PA
Safety & Health	FA	A		FA		PA	PA	PA			PA	FA	FA		A	A	PA	FA
Communication Systems	PA	A		PA		PA	PA	PA			PA	PA	PA		A	A	A	PA
Pre-Incident Planning	FA	PA		PA		PA	PA	PA			PA	FA	A		A	A	A	PA



## **Standard Operating Guidelines**

An item of significant concern is that fire departments utilize automatic aid to a significant degree in order to assure an adequate response can be assured to respond to an incident. Given the extent of this activity it is important to realize that if departments “run together”, they need to operate together. Thus standardized county wide operational practices become very important to efficient and safe operation.

Several of the county fire departments have developed some standard operating procedures/guidelines. The standard operating procedures developed illustrate state of the art approaches to many issues, however, they are department specific, and while some have begun using the same procedures, they are not necessarily used county wide, and thus have limited value. The project team found that there are separate department processes in place to develop, implement and monitor the standard operating procedures. The format that is generally found to be most effective including the indication of the date adopted, date reviewed date, and date posted as well as the following components of a standard operating procedure, including:

- purpose
- scope
- responsibility
- safety
- definitions
- references and attachments, and
- guideline

These should be comprehensive and consistent with the various training, implementation, performance, and monitoring components that standard operating procedures should include. However they should be flexible enough to assure situational awareness is used to make the appropriate decision.

Standard Operating Procedures/Guidelines serve several functions in today’s emergency services. Not only do they provide an understanding of how certain activities are to be accomplished, but they establish basic training criteria. A plan needs to be established to review the existing Standard Operating Procedures/Guidelines and begin the development of county-wide standard operating procedures/guidelines.

In today's society it is essential that all emergency service organizations develop, adopt, and implement standard operating procedures and guidelines. The principal of public kindness is no longer acceptable practice. Concepts, such as sovereign immunity (individual vs. government) have been significantly limited and narrowed by the courts.

Many of the federal, state, and provincial laws allow for suits against individual leaders of emergency service organizations. Terms such as "duty of care," "breach of omission or commission," and "joint and several liability" are entering the vocabulary of emergency service personnel.

One important way to prepare for this challenge is to develop, adopt, and implement a comprehensive set of Standard Operating Procedures/Standard Operating Guidelines (SOP/SOGs.)<sup>12</sup> Standard Operating Procedures/Standard Operating Guidelines are a fundamental safety practice, not only for emergency services, but business and industry as well.

During the process of compiling SOP/SOGs, the difference between these varied documents may become blurred. For instance, often the distinction between policy and procedure do not seem so clear. Policy is different from a SOP/SOG. All procedures and guidelines are based on an over-riding policy. **Policy should be viewed as the attitude, philosophy and intent of top management to the organization's personnel. It provides a framework and guidance to organization personnel in making decisions.** To aid in the development of SOP/SOGs, understanding specific definitions of terms is essential.<sup>13</sup>

As a starting point, we suggest that a set number of procedures (e.g. four etc.) be developed each month and reviewed. The following priority listing is provided for consideration in reviewing existing SOPs/SOGs and developing a related county-wide SOP/SOG.

Priority 1

- Vision Statement
- Mission Statement
- Standard of Response Cover
- Incident Command Policy, Chain of Command, & Transfer of Command
- Officer and Firefighter Qualifications
- Training Requirements
- Incident Size Up
- Radio Procedures
- Pre-plan and map books
- Response to Incidents
- Safety and Risk management
- Mayday policy
- Mid-rise/High Rise Operations
- Accountability

Priority 2

- Collapse Indicators
- Vehicle Operations and Regulations
- Alcohol and substance abuse policy
- General Rules and Regulations
- Harassment Policy
- Automatic Fire Alarms
- RIT/RIC Teams
- Imminent Life Hazard and Initial Fire Attack
- Highway/Roadway Response

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<sup>12</sup> Developing and Implementing SOP and SOG for Emergency Service Organizations, VFIS, York, PA 2001, Page 2.

<sup>13</sup> Ibid, Page 9

- Hydraulic Rescue Tool
- Incident Rehabilitation

#### Priority 3

- Incident Reports
- Incident Signals and Radio Procedures
- Ladder Company Operations
- Conduct at incident scenes
- Equipment Failure – member responsibility
- Thermal Detector Use
- Vehicle Accidents
- Vehicle Fires
- Water Supply Operations
- Child labor laws
- Conduct policy
- Disciplinary policy

#### Priority 5

- Communication Devices
- Helicopter Operations
- SCBA qualifications, testing, use & filling
- Station Guidelines
- Apparatus Response
- Apparatus Backing
- Carbon Monoxide Emergencies
- Dispatch Procedures
- Elevator Emergencies
- Fire Police Officer Procedures
- Ice/Water Rescue
- Natural Gas Emergencies

Finally, as noted earlier there is no one document which establishes a Strategic Guideline which identifies and outlines some basic rules and principles that relate to the major areas of fire fighting strategy and subsequent fireground activity. The uniform application of this guideline will produce favorable fireground outcomes. This guideline is designed to offer a basis and simple framework for use in Moore County fireground operations and command. It also represents many existing practices, and a defining of how this department is expected to perform during certain emergencies. A model guideline is provided as Appendix 1.

There is one strategic operating guideline that the Project Team highly recommends for consideration. Some roadways around the county were found to be narrow with little or no shoulders in many cases. This is considered common in rural areas. However, when vehicles of large size travel these roads at emergency speed, the probability of accidents increase and the accident impact is extensive. Rollover accidents have occurred and are significant events in North Carolina. A recommendation to conduct rollover prevention training with a related SOP/SOG follows.



In summary, while there may be individual agency exception, the project team believes that while some county-wide and local SOG's exist, they are ingrained in operations through training and implementation.

### **RECOMMENDATIONS (as noted in the Executive Summary)**

- 13-27 Establish and implement a county-wide strategic guideline for operations.
- 13-28 Continue development and implementation of county-wide Standard Operating Procedure/Guidelines using Moore County procedures/guidelines as the basic data/model. Develop a prioritization for development and revision, using the information provided in this section as a guideline. It is suggested that a team be established with no less than five members from county fire departments to develop these SOP/SOGs. As a start to this process, the study team is providing under separate cover, three suggested documents to be modified as appropriate for use in Moore County. These include a:
- Strategic Guideline
  - Incident Command Guideline
  - Water Shuttle Guideline
- 13-29 All apparatus operators should be required to complete a vehicle rollover prevention training program. A copy of such a program is being provided to each agency that took part in this project.

## **Mutual/Automatic Aid**

The fire departments use a mix of mutual and automatic aid. The philosophies for the number and types of apparatus being deployed to calls and the related use of mutual and automatic aid is established by each response grid, however, the mutual/automatic aid company may not respond or may respond with minimum personnel. Also, the departments may not be responding from the closest station to the incident and similar deployments may not be provided for similar hazards.

Overall, an Automatic/Mutual Aid agreement is in place and agreed to in writing. A copy of the agreement was reviewed. It is the view of the Project Team that the mutual aid agreement as provided to the team, falls short in defining liability to personnel. While the agreement is explicit in stating where responsibility for damage caused to or by apparatus; it does not define the same for personnel or potential professional practice issues.

The Moore County Automatic Aid Protocol, as signed by all Fire Chiefs in the county provides "automatic aid protocols for ALL alarms involving reported structure fires. When any alarm is received involving a reported structure fire, the primary department and automatic aid department(s) shall be dispatched simultaneously. The automatic aid department shall respond with a minimum of one piece of fire apparatus capable of carrying a minimum of 1,000 gallons of water. These shall include all structure fires, chimney fires, fires of unknown nature, any fire inside a structure, and all fire alarms."

The response deployment should be standardized as noted earlier in this report. Moore County has mandated the use of Mutual Aid agreements that are considered highly desirable and necessary for assurance of proper reimbursement should a major disaster strike. Future contracts should include the standard of cover expectation.

### **RECOMMENDATIONS (as previously noted in the Executive Summary)**

13-30 To standardize deployment to properties in Moore County, the following "box system" methodology for structure fires should be applied:

- For single family dwelling fires, a dispatch involving a complement of two engines from the two closest stations, as well as one service piece and one tanker for areas where a reliable water supply is not available
- For commercial structures, educational facility (non-residence), non-habitational, three engines and one ladder/service from the four closest stations plus two tankers
- For health care, educational residence facilities, and industrial facilities four engines and two ladders/service companies from the four closest stations plus two tankers
- For automatic fire alarms, one engine and one ladder/service company from the two closest stations.
- When a water supply deficiency is identified a tanker/tanker task force should be included

The long term goal should be to intelligently identify when equipment beyond two engines is required on single family residential fires, based on hazard, structure size, and level of internal protection.

- 13-31 Automatic/Mutual Aid agreements have not been signed for over ten years. They should be revisited and re-signed in 2013 on a five-year cycle thereafter.



## **AUTOMATIC/MUTUAL AID AGREEMENT FOR FIRE PROTECTION**

THIS AGREEMENT IS ENTERED INTO BETWEEN THE INCORPORATED AND MUNICIPAL FIRE DEPARTMENTS LOCATED WITHIN MOORE COUNTY AND EACH OF THESE DEPARTMENTS EXECUTES AND ADOPTS THE UNDERSTANDINGS, COMMITMENTS, TERMS AND CONDITIONS CONTAINED HEREIN:

WHEREAS, it is deemed to be in the public interest for the parties hereto to enter into an Agreement for automatic/mutual assistance in fire protection in order to increase fire defenses and to assure proper fire control, as well as providing the reserves needed to assure the community of adequate protection;

WHEREAS, the parties hereto wish to provide automatic/mutual aid and assistance to one another at appropriate times;

THEREFORE, the parties hereto agree to enter into this Agreement for reciprocal aid and assistance, embodying the understandings, commitments, terms and conditions for such aid and assistance as follows:

### **Section 1: Definitions**

“Agreement” means this document.

“Aid and assistance” includes the provision of personnel, equipment, services, supplies and other resources.

“Incident” means a fire call or fire alarm.

“911” means the main point in Moore County Emergency Services where emergency calls are received and dispatched.

“Primary Station” means that fire department in whose district the incident is occurring.

“Responsible Officer” means the Fire Chief or the person acting in this position in the Fire Chief’s absence.

“Secondary Stations” means that station or stations, other than the Primary Station, that have been designated in a document maintained by “911” as ones that will respond to specific incidents.

### **Section 2: Conditions of Automatic Mutual Aid**

- A. When an incident is reported, 911 shall immediately dispatch both the Primary Station and the appropriate Secondary Stations to the scene of the incident. When dispatched to a structure fire the secondary station shall respond with a fire apparatus capable of carrying a minimum of 1000 gallons of water. If a Secondary Station that receives such a dispatch determines that it will not be

- responding, it will immediately so inform 911.
- B. Upon arriving at the scene of the incident, the Primary Station may request any aid and assistance that may be needed in addition to that which is provided as outlined above. It shall be the decision of the Responsible Officer of the Primary Station to determine whether any additional apparatus is needed, and if so, what amounts and types of apparatus to request. However, under N.C.G.S. § 58-83-1, a fire department has full authority to send or to decline to send aid and assistance.
  - C. The Responsible Officer of the Primary Station shall retain control over the incident at all times, unless he relinquishes said control to another department.
  - D. Nothing in this Agreement prohibits the Primary Station from requesting additional aid and assistance in emergency situations in addition to fire calls and fire alarms.

### **Section 3: Liability**

- A. The liability, if any, of a Primary or Secondary Station for the injury or death of any fire personnel shall be determined as provided by law. Injury or death of personnel of a Secondary Station during the course of rendering mutual aid under this Agreement shall be deemed to have occurred in response to a call within its territorial limits.
- B. A Secondary Station is responsible for damage to its own apparatus and/or equipment when providing mutual aid under this Agreement. Furthermore, to the extent that it does not have immunity under N.C.G.S. § 58-82-5, a Secondary Station shall assume all liability for any damage caused by its own apparatus in providing mutual aid under this Agreement.
- C. The Primary Station is not liable for the personal property of the members of a Secondary Station which may be lost, stolen or damaged when said Secondary Station is providing mutual aid under this Agreement.

### **Section 4: Indemnification**

- A. The Primary Station shall indemnify and hold harmless a Secondary Station from and against all suits, actions, legal proceedings, claims, demands, damages, costs, expenses and reasonable attorneys fees to the extent resulting from the negligent act or omission of the Primary Station, its officers, employees or agents; provided, however, that the Primary Station shall not be obligated to indemnify a Secondary Station from and against any suits, actions, legal proceedings, claims, demands, damages, costs, expenses or attorneys fees to the extent arising out of any negligent act or omission of a Secondary Station or any of its officers, employees or agents.
- B. A Secondary Station shall indemnify and hold harmless the Primary Station from and against all suits, actions, legal proceedings, claims, demands, damages, costs,

expenses and reasonable attorneys fees to the extent resulting from any negligent act or omission of a Secondary Station, its officers, employees or agents; provided, however, that a Secondary Station shall not be obligated to indemnify the Primary Station from and against any suits, actions, legal proceedings, claims, demands, damages, costs, expenses, or attorneys fees to the extent arising out of any negligent act or omission of the Primary Station or any of its officers, employees or agents.

#### **Section 5: Costs and Expenses**

- A. Each party to this Agreement shall be responsible for its own usual and customary personnel expenses.
- B. Each party to this Agreement shall be responsible for the operating costs and expenses regarding the use of apparatus, equipment, tools and supplies.

#### **Section 6: Authority and Protection**

When providing mutual aid under this Agreement, a Secondary Stations personnel shall be deemed to have all of the jurisdiction, authority, rights, privileges, and immunities, including coverage under Workers Compensation laws, which are afforded them when responding to calls in their own district, and the protections provided by N.C.G.S. § 160A-293 shall apply.

#### **Section 7: Severability**

Should any clause, sentence, provision, paragraph, or other part of this Agreement be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair or invalidate the remainder of this Agreement.

#### **Section 8: Replacement for Earlier Agreement**

This Agreement shall supersede and replace the Moore County 1975 automatic/mutual aid agreements.

#### **Section 9: Term**

The term of this Agreement shall be five (5) years and shall be automatically renewed for an additional five (5) years at the end of the term and each succeeding term unless one or more of the parties notifies the others not less than 60 nor more than 120 days of the end of the then current term that it chooses not to renew the Agreement.

#### **Section 10: Effective Date**

This Agreement shall become effective on the date it is executed as evidenced below.

IN WITNESS WHEREOF, each of the parties hereto have duly executed this Agreement in it

Moore County Fire Mutual Aid Agreement (2004)

Page 3 of 6



name and on its behalf by the chief of the department and the president of the board of directors, as of the date set forth below.

<u>Thomas F. Bunch</u>	<u>Elizabeth B. McGuire</u>	<u>5-10-04</u>
Chief	Mayor	Date
Aberdeen Fire Department	Town of Aberdeen	

<u>Dan Ray</u>	<u>W. B. Mum</u>	<u>4-20-04</u>
Chief	Chairman	Date
Cameron Rural Fire Department, Inc.	Cameron Rural Fire Department, Inc.	

<u>C. Brantley</u>	<u>Ray G. Giddens</u>	<u>4/20/04</u>
Chief	Mayor	Date
Carthage Fire Department	Town of Carthage	

<u>Tom C. Sasser</u>	<u>Mary M. Pope</u>	<u>4/16/04</u>
Chief	Chairman	Date
Circle V Fire Department, Inc.	Circle V Fire Department, Inc.	

<u>Henrich L. Mackey</u>	<u>James H. Dull Jr.</u>	<u>4-20-04</u>
Chief	Chairman	Date
Crains Creek Volunteer Fire Department, Inc.	Crains Creek Volunteer Fire Department, Inc.	

<u>H. Adrien Allred</u>	<u>Barbara Allred</u>	<u>5/11/2004</u>
Chief	Chairman	Date
Crestline Volunteer Fire Department, Inc.	Crestline Volunteer Fire Department, Inc.	

<u>Marshall A. Wall</u>	<u>James H. Dull Jr.</u>	<u>3-24-04</u>
Chief	Chairman	Date
Eagle Springs Volunteer Fire Department, Inc.	Eagle Springs Volunteer Fire Department, Inc.	

Brian Morris  
Chief  
Eastwood Volunteer Fire  
Department, Inc.

Daniel Webb  
Chairman  
Eastwood Volunteer Fire  
Department, Inc.

4-30-04  
Date

Dustin Brown  
Chief  
High Falls Fire & Rescue  
Department, Inc.

Long C. Chubb  
Chairman  
High Falls Fire & Rescue  
Department, Inc.

5/22/04  
Date

Charles Davis  
Chief  
Pinebluff Fire Department

Earlene L. McLamb  
Mayor  
Town of Pinebluff

6-28-04  
Date

Jan W. McLeod  
Chief  
Pinehurst Fire Department

June  
Mayor  
Village of Pinehurst

4-28-04  
Date

Art  
Chief  
Robbins Fire Department

Michael R. Brown  
Mayor  
Town of Robbins

6-17-2004  
Date

Lahri A. Lys  
Chief  
Seven Lakes Volunteer Fire  
Department, Inc.

Edith S. Lys  
Chairman  
Seven Lakes Volunteer Fire  
Department, Inc.

4-20-04  
Date

Ruby J. Baker  
Chief  
Southern Pines Fire Department

Frank L. Jure  
Mayor  
Town of Southern Pines

3-18-04  
Date

Ken W. King  
Chief  
West End Fire & Rescue  
Department, Inc.

Jim  
Chairman  
West End Fire & Rescue  
Department, Inc.

4/13/04  
Date

Frankie Cogh  
Chief  
Westmoore Volunteer Fire  
Protection Association, Inc.

Richard Hancock  
Chairman  
Westmoore Volunteer Fire  
Protection Association, Inc.

4-5-04  
Date

Richard McKenzie  
Chief  
Whispering Pines Fire  
Department

Rich Delfino  
Mayor  
Village of Whispering Pines

4/21/04  
Date



## **Risk Management**

Assurances were made by officers that the fire companies are pursuing appropriate risk management strategies.

NFPA Standard 1250, the Recommended Practice in Fire and Emergency Service Organization Risk Management defines risk management as the process of planning, organizing, directing, and controlling the resources and activities of an organization in order to minimize the detrimental effects on that organization. The risks are management through a combination of risk control and risk financing techniques.

### **Financial Risk Protection Considerations<sup>14</sup>**

Risk Control Techniques are generally in place and include equipment maintenance, facilities maintenance, some safety officer practices and related techniques. Risk Financing techniques in place are based in traditional insurance programs as follows:

Emergency Service Organizations (ESO) typically use insurance and small deductibles as their method of financial risk management. While we are offering suggestions, it is important to sit with your local insurance professional to discuss the specifics as they apply to your organization. An emergency service organization should consider the following coverage/coverage levels.

#### **Property-Casualty Coverage**

- **Buildings** – guaranteed replacement cost is suggested, which provides adequate coverage limits and guaranteeing replacement of the building with like kind and quality.
- **Contents** – this is up to the ESO and should be reviewed every 2 years at minimum. A simple check on furniture/office cost can help determine where you need to be initially, and then make changes from there.
- **Vehicles**
  - **Physical Damage** – the ESO picks the limits based on their understanding of agreed values as discussed with the local agent.
  - **Liability** - \$1,000,000 minimum is recommended (refer to state requirements)
- **Boats** – less than 100 HP may be covered as portable equipment, and needs to be confirmed with your agent. Higher than 100 HP must be scheduled as a vehicle or on a floater with an assigned value
- **Portable Equipment** – this may be provided as replacement cost without a limit. It is based on the ESO vehicle schedule of apparatus or itemized, depending on the insurer.
- **General Liability** - \$1,000,000 minimum (refer to any applicable state requirements)

**Management Liability Coverage** - \$1,000,000 minimum, is suggested, however, a bond should be carried for all financial transactions and to protect the ESO's monies and securities, for a limit that meets or exceeds their highest limit of funds in their accounts in any 12 month period. There should be strict guidelines in place on check signing, and criminal background checks done all members, especially those who have check cashing ability. It should be confirmed with your

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<sup>14</sup> VFIS

agent that this coverage provides protection for **financial mismanagement, wrongful termination, harassment, hostile work environment and discrimination. Defense costs should be included.**

**Protection of Personnel** – this is different in every ESO, as it is based on the ESO’s ability to pay from the program, which varies greatly across states.

- **Accident and Sickness** – discuss with your agent for the proper/affordable amount
- **Life Insurance** – group term insurance should be discussed with your agent to determine a cost
- **Critical Illness** – discuss with your agent to determine need and pricing
- **LOSAP** – there are multiple ways to achieve Length of Service Programs which may or may not include group term insurance and needs to be discussed with your agent

As noted earlier there are no plans in place in the event a disaster happens that affect the fire company’s assets.

## Emergency Medical Services



The mission of the Moore County EMS Division is to preserve and enhance the quality of life for the citizens and visitors of Moore County by continuously providing a compassionate and cost effective pre-hospital medical care and ambulance transport service that is trained to save and dedicated to serve.

Moore County EMS (MCEMS) provides seven Paramedic level ambulances, two Paramedic level Quick Response Vehicles (QRVs) and one EMS Shift Commander vehicle responding from nine strategically located bases throughout the County. This is supplemented by various fire departments/rescue squads providing either Basic Life Support care or transport service. County funds are provided to fire departments providing this service. Moore County EMS operates on two different shift schedules of 24/48 hours as well as 12 hours. MCEMS provides advanced life support and pre-hospital emergency care for a population of approximately 88,000 in an area of 705 square miles.

Moore County EMS has nine bases of operation located throughout the County.

Paramedic Transport Units:

- Base 1 North Moore
- Base 2 Union Pines
- Base 3 West End
- Base 4 Pinehurst
- Base 5 Carthage
- Base 6 Aberdeen
- Base 7 Southern Pines
- Paramedic Response Units
- Medic 18 Westmoore
- Medic 28 Woodlake



Typical EMS Paramedic Transport Unit

An Emergency Medical Director is contracted with and has been in place for over 30 years. He provides guidance in medical protocols and quality assurance. State EMS protocols serve as the basis for delivery of service. The EMS Assistant Chief is responsible for supervision, and educational credentialing. A Supervisor is responsible for shift operations and a captain on each shift is responsible for quality control. There are also two (2) field training officers on each shift.

The EMS delivery system is provided by staffing on 24-hour shifts on units defined previously. Dispatching is done with closest available unit to the incident being sent to the call. The unit hour calculations are as follows:

- North Area UHU (unit hour utilization) of .083 based upon an average of 11,000 incidents averaging .625 hours per call for 6 units on status
- South Area UHU of .139 based upon an average of 11,000 incidents averaging .625 hours per call for 6 units on status.

These benchmarks are below the national benchmark of .35 which indicates excess capacity for service delivery without increasing staff or units, based on staffing availability. National benchmarks suggest that burnout occurs at a .5 unit hour utilization rate.

The transport units were deployed based upon national benchmarks of one (1) ambulance for each 10,000 persons. Today system status management, coupled with automatic vehicle location systems provide for more timely deployment of service delivery.

An additional consideration is the periodic lack of bed availability at the hospital which results in longer ambulance wait time to transition patients from ambulance equipment to a hospital bed. The Public Safety Director indicates a significant gap in overall coverage exists in the Carthage/Highfalls area. A combined fire/EMS station is recommended in that area to house a paramedic response unit and appropriate fire apparatus to cover the medical service demand and enhance the fire suppression/insurance rating in that area.

Training is conducted by the Moore County Public Safety Department.

The county currently bills Medicare or insurance companies if applicable for transport services, through the county. Seven Lakes EMS is currently billing for transports even though there is a county-wide EMS tax that financially supports their agency.

### **RECOMMENDATIONS (as noted in the Executive Summary)**

- 13-32 Billing by agencies for medical transport is currently being conducted. The Office of Inspector General should be contacted for a ruling on whether or not this is permitted if the agency receives tax dollars to provide this service. The determination letter should be provided to the Moore County Public Safety Department as documentation for the ability to this, and if ruled not able to bill, the process should be discontinued immediately.

## **Special Operations Team (SOT)**

The Moore County Department of Public Safety operates a Special Operations Team to support hazardous materials and technical rescue situations that occur within the county.

The Special Operations Team is intended to support the previously defined objective to preserve and enhance the quality of life for the citizens and visitors of Moore County by continuously providing a responsive, competent fire suppression, rescue, and hazard management, compassionate and cost effective service that is trained to save lives and property, and dedicated to serve.

### **Hazardous Materials**

A Local Emergency Planning Commission (LEPC) is in place, consisting of 12 individuals and meets quarterly. They provide case review and plan exercising direction.

A three-tiered response protocol is established which provides for

- Local agency will respond to small spills/leaks and analyze or manage the event as appropriate;
- If deemed needed, the Special Operations Team will be dispatched for technical knowledge, specialized equipment or general assistance; and
- If deemed needed, the State Regional Response Team would be requested from Greensboro or Fayetteville.

An SOT response vehicle provides a cache of equipment to respond to major incidents as dispatched, with defined team of individuals comprised of county staff and selected local agency qualified members, consisting of 8 hazardous materials technicians and a total of 24 members. The unit is staged at the Aberdeen Fire & Rescue Department complex.



Special Operations Team Response Unit

## **Technical Rescue**

Similar to the hazardous materials response capability and response protocol, a rescue response protocol is implemented.

A three-tiered response protocol is established which provides for

- Local agency will respond to minor (primary) entrapment situations and analyze or manage the event as appropriate;
- For any event beyond a minor (primary) entrapment situation a heavy rescue unit will be dispatched based on quadrant assignments. The agencies will include:
  - West End Fire & Rescue
  - Robbins Rescue
  - Southern Pines Fire & Rescue
  - Cypress Pointe Fire & Rescue
- If deemed needed, the Special Operations Team will be dispatched for technical knowledge, specialized equipment or general assistance; and

A Special Operations Team (SOT) response vehicle provides a cache of equipment to respond to major incidents as dispatched, with defined team of individuals comprised of county staff and selected local agency qualified members, consisting of 8 hazardous materials technicians and a total of 24 members. The unit is staged at the Aberdeen Fire & Rescue Department complex.

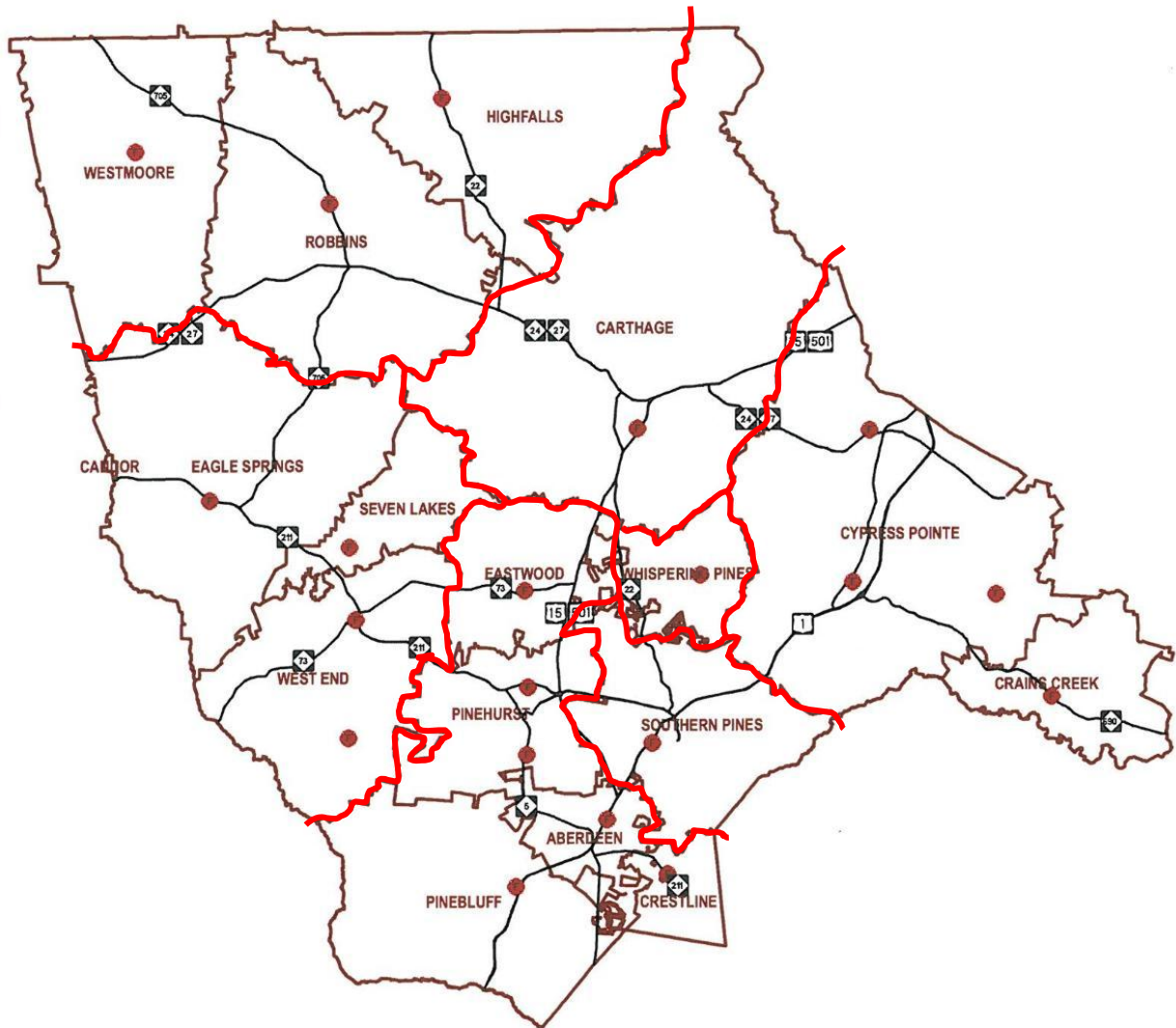
Comprehensive Technical Rescue Standard Operating Guidelines are not in place. Given the nature of the interagency operational practice, county-wide standard operating guidelines should be developed and implemented. A set of such guidelines that serve as an example are provided under separate cover and should be reviewed and modified as appropriate for implementation in Moore County.

## **RECOMMENDATIONS (as noted in the Executive Summary)**

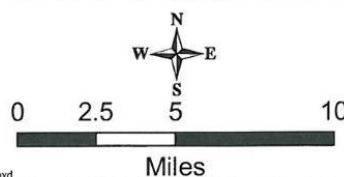
- 13-33 The County staff has been proactive in establishing and enhancing a Special Operations Team to respond to advanced level incidents. They should continue to pursue this capability by expanding the partnerships with local agencies to groom new members and train them to the required capabilities of the team.
- 13-34 Standard Operating Guidelines should be developed for Technical Rescue Operations that serve as the basis for interagency operational training and performance.



## Moore County, NC Fire Districts



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Moore County GIS  
Date: 12/11/2012

### Legend

- Fire Stations
- Highways
- Fire Districts

## **Moore County Fire Marshal's Office**



The mission of the Moore County Fire Marshal's office is to protect lives and property through fire prevention. They accomplish this through enforcement of the North Carolina Fire Prevention Code, conducting fire investigations as required (including an arson canine) and offering public education programs as requested.

The Fire Marshal serves as liaison with the 16 career, combination and volunteer fire departments contracted to provide fire protection. This involves working closely with these departments on issues such as mutual aid services, training, service delivery, administrative issues, including budgeting and funding and fire prevention education.

The Fire Marshal is responsible for code enforcement as required by N.C. General Statutes and Moore County Fire Prevention & Protection ordinance for all unincorporated areas of Moore County and all public schools. Additionally, the fire marshal's office provides fire code enforcement for the municipalities of:

Town of Cameron  
Town of Carthage  
Village of Foxfire  
Town of Pinebluff  
Town of Robbins  
Taylortown  
Town of Vass  
Village of Whispering Pines

The team conducts approximately 900 initial inspections, re-inspections and plan reviews annually.

Public Safety provides on-call staff 24 hours a day, 365 days a year to respond to all significant emergencies within Moore County, and serves as technical specialist, coordinators, and resource agents. In addition, staff responds to and conducts origin and cause investigations of structure fires.

Fire prevention activities focus on a smoke alarm program, fire extinguisher training and fire prevention week initiative which includes activities at the county schools, in concert with the local fire agency.

An opportunity exists for the Moore County Fire Chief's Association to take responsibility for and/or partner with the Moore County Fire Marshal's Office/County Team to formulate a plan for:

- Standard of Coverage
- Standardized Incident Reporting
- County-wide annual report
- County-wide SOGs that include best procedures for all departments
- Updating the Automatic/Mutual Aid contracts
- Group purchasing
- Development of a consistent pay schedule and benefits for paid staff
- Standardization of personnel data management documents
- Standardizes deployment plan for all call types

### **RECOMMENDATIONS (as noted in the Executive Summary)**

- 13-35 Revision of the fire code (Chapter #5) when dealing with access, water supply and structural design should be strictly enforced when encountered.

# **FIVE-YEAR STRATEGIC PLANNING TASKS**

### Moore County Fire Services Strategic Planning Tasks 2013

<b>Task</b>	<b>Report Recommendation</b>	<b>Responsibility</b>	<b>Status</b>
Adopt Fire and Emergency Services Plan		County Commissioners	
Determine Service Delivery Statement and Standard of Response Cover	13-01	Each Agency	
Determine Standard Reporting Requirements for Companies	13-02	Fire Marshal	
Develop and release an individual company and county-wide annual report	13-03	Each Agency and Fire Marshal	
Develop and implement Recruitment and Retention plan	13-22	Each Agency	
Develop standard documentation requirements	13-23	Fire Chiefs Association	
Complete rescue certification	13-26	Robbins Rescue	
Standard Operating Guideline (SOG) development and approval (1 per month)	13-28	Fire Chiefs Association	
Vehicle Rollover Prevention Training	13-29	Each Agency	
Billing Issue Resolution	13-27		
Adopt Strategic Guideline to manage emergency operations	13-27	County-wide Fire Chiefs Association and Each Agency	
Upgrade Mutual Aid Agreement	13-31	County Commissioners	
Standardize deployment	13-30	Each Agency	

## Moore County Fire Services Strategic Planning Tasks 2014

<b>Task</b>	<b>Report Recommendation</b>	<b>Responsibility</b>	<b>Status</b>
Begin consolidation process as indicated in report	13-04	Affected Agencies	
Change response issues as indicated in report	13-05	Affected Agencies	
Budget for station upgrades to stations indicated in report	13-07	Affected Agencies	
Submit grant to FEMA for exhaust system upgrades	13-08	Fire Marshal	
Establish Fire Commission	13-18	County Commissioners	
Develop Long Term Funding/Planning Model	13-14	Fire Commissioner	
Establish single fire tax rate	13-17	County Commissioners	
Revise contract with agencies, duplicate every 5 years	13-15 & 13-19	Fire Marshal and County Manager	
Implement Dissolution Clause in agency by-laws	13-16	Each Agency	
Continue with Recruitment and Retention Plan	13-22	Each Agency	
Implement standardized approach to paying firefighters	13-20	Fire Commission	
Upgrade Operations Plan	13-25	Each Agency	
Revise Fire Code	13-35	Fire Marshal	
SOG development (1 per month)	13-28	Fire Chiefs Association	



**Moore County Fire Services  
Strategic Planning Tasks 2015**

<b>Task</b>	<b>Report Recommendation</b>	<b>Responsibility</b>	<b>Status</b>
Continue consolidation process indicated in report	13-04	Affected Agencies	
NCOSFM for training and communication	13-06 13-24	Fire Marshal	
Plan for new stations as indicated in report	13-09	Affected Agencies and Fire Commission	
Implement Fire Alarm Certification Program	13-11	Fire Marshal	
Implement Group Purchasing Program	13-21	County Finance Director	
Continue with Recruitment and Retention Plan	13-22	Each Agency	
Upgrade Operations Plan	13-25	Each Agency	
Technical Rescue development	13-34	SOT	
SOT expansion with agency involvement	13-33	SOT	
SOG development (1 per month)	13-28	Fire Chiefs Association	

**Moore County Fire Services  
Strategic Planning Tasks 2016**

<b>Task</b>	<b>Report Recommendation</b>	<b>Responsibility</b>	<b>Status</b>
Continue consolidation process indicated in report	13-04	Affected Agencies	
Plan for aerial apparatus purchases as indicated in report	13-10	Affected Agencies and Fire Commission	
Continue with Recruitment and Retention Plan	13-22	Each Agency	
Upgrade Operations Plan	13-25	Each Agency	
SOG development (1 per month)	13-28	Fire Chiefs Association	

**Moore County Fire Services  
Strategic Planning Tasks 2017**

<b>Task</b>	<b>Report Recommendation</b>	<b>Responsibility</b>	<b>Status</b>
Complete consolidation process indicated in report	13-04	Affected Agencies	
Upgrade Operations Plan	13-25	Each Agency	
Continue with Recruitment and Retention Plan	13-22	Each Agency	
SOG development (1 per month)	13-28	Fire Chiefs Association	

# APPENDICES

## **APPENDICES**

**APPENDIX 1 – Strategic Guidelines for Emergency Operations**

**APPENDIX 2 – Observations of NCOSFM/ISO Reports**

**APPENDIX 3 – Fire Response Data Analysis**

**APPENDIX 4 – Sample Pre-Emergency Planning Form**

**APPENDIX 5 – Sample Standard Operating Guidelines**

**Health & Safety Officer**

**Rehabilitation**

**Tanker Task Force**

**Large Area Structures**

**Roadway/Roadside Scene Safety**

**2-In 2-Out**

**Mayday**

**Incident Command**

**Accountability**

**POV Operations**

**APPENDIX 6 – Annual Report Format - Example**

**APPENDIX 7 – Facility Concept and Cost Estimate**

**APPENDIX 8 – Consolidation Process Activities**

**APPENDIX 9 – Consulting Team**

**APPENDIX 10 – References**

# **APPENDIX 1**

## **STRATEGIC GUIDELINE FOR EMERGENCY OPERATIONS**



## Moore County Fire Services

### DRAFT - Standard Operational Guideline - DRAFT

S.O.P Title: Strategic Guidelines  
Original Issue Date:  
Latest Revision:

Page 1 of 8

Authorized By \_\_\_\_\_

This Strategic Guideline identifies and outlines some basic rules and principles that relate to the major areas of fire fighting strategy and subsequent fireground activity. The uniform application of this guideline will produce favorable fireground outcomes. This guideline is designed to offer a basis and simple framework for Moore County Fire Services fireground operations and command; it also represents many existing practices, and a defining of how this department is expected to perform during certain emergencies.

#### STRATEGIC PRIORITIES

There are four separate strategic priorities that must be considered in order to stabilize fireground situations - these priorities also establish the order that other basic fireground functions must be performed. These strategic priorities should be regarded as separate, yet interrelated, activities that must be considered in order. The Incident Commander cannot proceed on to the next priority until the objective of the current function has been completed.

The Basic Strategic Priorities are as follows:

**Life Safety (Rescue)** - The activities required to protect occupants, and to treat the injured.

- a) **Removing victims from threat**
- b) **Removing threat from victims**
- c) **Defending in place, to buy time**

**Exposure Protection** - Keep things (persons or property) that are threatened by fire from being damaged by fire.

**Fire Control/Extinguishment** - The activities required to stop the forward progress of the fire and to bring the fire under control, and complete extinguishment.

**Property Conservation** - The activities required to stop or reduce additional loss to property. This includes but is not limited to salvage.

All four strategic priorities require a somewhat different tactical approach from both a command and an operational standpoint. While the Incident Commander should satisfy the objectives of each function in its priority order, he must, in many cases, overlap and "mix" the activities of each to achieve completion. Notable examples of this are the need many times to achieve interior tenability with active/extensive fire control efforts before getting on with primary search, or the need to initiate salvage operations while active fire control efforts are being extended.

## 1. LIFE SAFETY

It shall be a standard Moore County Fire Services guideline to extend a primary and secondary search in ALL involved and dangerously exposed areas that can be entered in accordance with the Occupational Safety & Health Administration (OSHA) 2 in 2 out rule. The Incident Commander and operating companies cannot depend upon reports from spectators to determine status of victims. Fire Department personnel should utilize such civilian reports as to the location, number and condition of victims as information that "supports" routine primary search efforts. Positive information from spectators about victims inside shall be considered sufficient for the OSHA rescue exception. Other probabilities as well may indicate a situation where the OSHA exception applies. Such activity must only be carried out with the knowledge and consent of the Incident Commander in order to insure the safety of the rescuers.

The Incident Commander must structure initial operations around the completion of the **primary search**. Primary search means companies have quickly gone through ALL occupiable area(s) and verify the removal and/or safety of all occupants. Asking spectators or one time occupants "is everybody out?", or the status of the fire, is not enough. Time is the critical factor in the primary search process and successful primary search operations must be extended quickly and during initial fire stages to be regarded as being primary. The completion of the primary search shall be reported to the Incident Commander using plain language by those who were assigned the task. It is the responsibility the Incident Commander to coordinate primary search assignments, secure completion reports from interior companies and to communicate the search accomplishment to all units operating on the scene. The Incident Commander must make specific primary search assignments to companies to cover specific areas of large complex occupancies and maintain on-going control of such companies until the entire area is searched. Once the primary search has been completed and communicated to all units, the Incident Commander must take steps to maintain control of access to the fire area; beware of occupants (and others) re-entering the building.

The life safety functions that follow lengthy fire control activities are regarded as representing a **secondary search**. A secondary search means that fire companies thoroughly search the interior of the fire area after initial fire control and ventilation activities have been completed. Different companies should preferably complete a secondary

search than those involved in the primary search activities. Thoroughness (rather than time) is the critical factor in a secondary search.

The *stage of the fire* becomes a critical factor that affects the life safety approach developed by the Incident Commander. The following items outline the basic approach of the Incident Commander to standard fire stages:

**Nothing Showing** - In nothing showing situations or in very minor fire cases that clearly pose no life hazard, the officer in charge must organize and direct a rapid interior search and those carrying out that task must promptly report their findings. In such cases, the interior search for victims will also verify no fire.

**Smoke Showing** - In smoke showing and working fire situations, fire control efforts must be extended simultaneously with rescue operations to gain entry and to control interior access to complete the primary search. In such cases, the Incident Commander and all operating companies must be aware that the operation is in a rescue mode until primary search is complete, regardless of the fire control required. In working fire situations, primary search must be followed by a secondary search.

**Fully Involved** - In cases of fully involved buildings or sections of buildings, immediate entry (and primary search activities) becomes impossible and survival of the occupants improbable, the incident commander must initially report fully involved conditions and that a primary search is not possible. As quickly as fire control is achieved, Command must then structure what is in effect a secondary search for victims.

The Incident Commander must consider the following factors in developing a basic life safety size-up:

- Number, location and condition of victims.
- Effect the fire has on the victims.
- Capability of the fire-rescue forces to enter the building, remove and protect the victims and control the fire.

The most urgent reason for the special calling of additional units is for the purpose of covering life safety. It is the responsibility of the Incident Commander to develop a realistic (and pessimistic) rescue size up as early as possible.

The Incident Commander must make one of these three basic life safety decisions.

Do we remove victims from the threat?

Do we remove the threat from the victims?

Do we buy time until more resources are available?

In some cases occupants may be safer in their rooms than moving through contaminated hallways and interior areas. Also, such movement may impede interior fire fighting. In still other cases the fire-rescue personnel may have no choice in the matter; some occupants will insist in evacuation while others will refuse to leave the relative safety of their rooms.

Life Safety efforts should be extended in the following order:

- Most severely threatened.
- The largest number (groups).
- People in the remainder of the fire area.
- People in the exposed areas.

All initial attack forces must be directed toward supporting rescue efforts and hose lines must be placed in a manner to control interior access, confine the fire, and protect avenues of escape. Hose line placement becomes a critical factor in these cases and all operating companies must realize that the operation is in a Life Safety (rescue) Mode and if necessary operate in a manner that writes off the structure in order to buy rescue time.

Normal means of interior access (stairs, halls, interior public areas, etc.) should be utilized to remove victims whenever possible. Secondary means of rescue (ladders, fire escapes, and the like), should be utilized only in their order of effectiveness.

It shall be the responsibility of the incident commander to structure the treatment of victims after removal. Multiple victims should be removed to the same location for more effective treatment. The incident commander should direct and coordinate the "EMS" structure whenever possible. Implementation of the "Mass Casualty" might be in order depending upon circumstances and the number of victims.

## 2. FIRE CONTROL

It shall be the standard Moore County Fire Services operating procedure to attempt to stabilize fire conditions by extending wherever possible an **aggressive**<sup>15</sup> well-placed and adequate interior fire attack effort and to support that attack with whatever resource and action is required to reduce fire extension and to bring the fire under control. Incident commanders must develop a fire control plan of attack that first stops the forward progress of the fire and then brings the fire under control. In most cases, the first arriving company will not *immediately* have adequate resources to accomplish all of the attack needs that may be faced. The initial Incident Commander must prioritize attack efforts, act as a resource allocator and determine the resources the fire will eventually require. Accurate forecasting of conditions by the Incident Commander becomes critical during this initial evaluation process.

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<sup>15</sup> A well- thought out, staffed, equipped, and supplied (GPM) fire fighting\life safety effort.

There will be cases where the entire first arriving engine company (as a whole, fully geared unit!) may be required to enter a structure to locate, search, and operate an attack line from a standpipe system. This situation will most likely occur in buildings such as college dormitories, high rise, and modern low-rise buildings. When this "total engine company" enters the structure, **the second arriving engine must function as the water supply company feeding the various fixed fire protection systems being used.** Radio communication becomes critical during this process. Other arriving units must know what the first arriving unit is doing. The *Total Engine Company Concept* is an option, and mentioned here for individual officer consideration.

**Fires should be fought from the unburned side.** Attack from the burned side generally will drive the fire, smoke and heat into uninvolved portions of the building and the interior control forces out of the building.

**Fires should be fought from the interior.** The fastest place to put water on the fire is generally from the outside at the point where the fire is burning out of the building – most of the time this is the worst application point.

The Incident Commander must consider the most dangerous path of travel and avenue of fire extension, particularly as it affects rescue activities, confinement efforts, and exposure protection. Resources must then be allocated based upon this fire growth prediction.

Initial attack efforts must be directed toward supporting primary search. The first attack line must go between the victims and the fire and protect avenues of escape.

First arriving units must determine fire location and extent before starting fire operations (as far as possible). All such beginning operations must be communicated.

**Put water on fire:** The rescue, exposure protection, confinement, extinguishment, overhaul, ventilation & salvage problem is solved in the majority of cases by a fast, strong, well-placed attack.

The Incident Commander must consider seven (7) sides (or sectors) of the fire: front, back, sides, top, bottom and interior.

The Incident Commander must develop a conscious time decision with regard to both the size of the attack and the position of the attack. The bigger the attack, the longer it takes to get it going; the more the interior attack is repositioned, the longer it will take to complete the task. "*Where the fire is going to be?*" after set up is completed, is an important question that must be answered.

Lacking direction, when fire is showing, companies will many times lay hose and put water on the fire utilizing the fastest, shortest, most direct route. This process has been iden-

tified in some fire service texts as the "candle-moth syndrome"; everyone wants to go to the flames. It is the responsibility of the Incident Commander to insure that all operations are "directed" activities.

When the fire is coming out of a burning building and not affecting exposures, **let it vent**. Launch an interior attack from the unburned side. It is generally venting in the proper direction. Placing a hose stream in the ventilation opening is dangerous, careless and reckless. It requires discipline on the part of the fire fighters and fire officers not to do so, and not submit to "candle-moth" temptations.

The Incident Commander must develop critical decisions that relate to cut-off points and must approach fire spread determinations with pessimism. It takes a certain amount of time to "get water" and the fire continues to burn while the attack gets set up. The Incident Commander must consider where the fire will be when attack efforts are ready to actually go into operation; if the Incident Commander misjudges, the fire may burn past the planned attack/cut-off position.

Don't put water into burned-out property, particularly where there is unburned property elsewhere left to burn. It is generally improper to operate fire streams into property that is already lost, many times such activity is done at the expense of exposed unburned property, and wastes valuable extinguishment efforts. Write-Off property that is already lost and go on to protect exposed property based on the most dangerous direction of spread. Do not continue to operate in positions that are essentially lost.

### 3. PROPERTY CONSERVATION

It shall be standard Moore County Fire Services operating guideline to commit whatever fireground resource is required to reduce property loss to an absolute minimum. **It must be stressed that; the age old practice of taking chances with fire fighter lives for vacant and derelict buildings is no longer acceptable!** *The Incident Commander must weigh the risk versus the benefit, at all operations.* The activities that relate to effective property conservation require the same early and on-going command functions and aggressive action as both rescue and fire control. All members are expected to perform in a manner that continually reduces loss during fire operations.

When the fire is out - shut down fire streams. Early recognition that the forward progress of the fire has been stopped is an important element in reducing loss. The earlier the salvage operations begin, the smaller the loss.

When basic fire control has been achieved, the Incident Commander must commit and direct companies into "stop loss" activities; such activities generally include:

Evaluating damage to overall fire area.

Evaluating the salvage value of various areas.



Evaluate resources that will be required.

Committing the necessary companies to salvage functions.

Reducing hose lines from fire control functions to salvage functions.

Additional rotation of personnel due to fatigue.

In cases where there is an overlapping need for both fire control and salvage to be performed simultaneously and where initial arriving companies are involved in fire fighting and salvage remains undone, it shall be considered reasonable to special call additional resources to perform salvage functions.

Be aware that personnel involved in rescue and fire control operations are generally fatigued and have reached a state of reduced efficiency by the time property conservation functions must be completed - this can result in a high potential for injury. The incident commander must evaluate personnel conditions and replace with fresh companies if needed.

#### 4. ASSUMPTION OF COMMAND

**First Arriving Unit:** The first arriving unit or officer is responsible for initially assuming command. This individual (officer or member in charge of the unit) retains command responsibilities until command is transferred to a higher-ranking officer or until the incident is terminated. This assumption of command by the first unit is **mandatory**.

As the identity of the incident commander changes through the formal *command transfer process*, the responsibility for command functions also changes. (Note: The Incident Commander is responsible for all Command functions, all of the time during the incident) The term INCIDENT COMMANDER refers jointly to the person, the functions, and the location of who ever is in charge, and provides a standard identification tag for the **single** person in charge. With this system, it should be all but impossible for more than one officer to act as an Incident Commander at any one time on any one incident scene.

**Incident Commander Modes** - When the first unit arrives, quick decisions must be made as to which of the following commitments the unit will make:

**NOTHING SHOWING MODE** - Generally requires investigation by the first arriving unit while others remain in a stand-by position. Usually, the officer on the first unit will go with the investigating company while **using the portable radio to continue the command function**. In effect, this creates a "mobile command"; a condition that is otherwise undesirable.

**FAST ATTACK MODE** - Requires immediate action to stabilize (e.g., a working, interior fire in a residence, apartment or small commercial

occupancy). For an offensive fast attack, the choice may be to lead the attack while utilizing the portable radio to continue command. This fast attack mode should be concluded rapidly with one of the following outcomes:

Situation stabilized by the offensive attack.

Command transferred to the first arriving chief officer

Situation not stabilized; member in charge of the first arriving unit moves to an exterior (stationary) command position.

The Fast Attack Mode will most likely be the mode most officers will utilize in the beginning, at the majority of fires.

COMMAND MODE - Because of the size of the fire, complexity of the occupancy, or the possibility of extension, some situations will demand strong direct command from the outset. In these cases, the first arriving unit will maintain at an exterior command position and remain there until relieved of command.

Chief officers arriving upon the scene of an incident not yet declared under control may "take" Command by a formal process. The actual command transfer is regulated by a very simple, straightforward procedure that includes: Contacting the Incident Commander directly. (Face to face is always preferable), however, transfer of command by radio can be accomplished during fairly simple incidents when the responding officer has "copied" all Command activity made before arrival. Standard communications must be followed.

The officer being relieved will provide a briefing that includes:

- Initial Situation - "What was it like when you arrived?"
- Deployment & Assignment - "What you are doing?"
- Strategic and Tactical Plan - "What would you do if I wasn't here?"
- Safety Considerations- "Are there any unusual safety problems that you know of?"

This briefing concludes with a confirmation of command transfer. It should be a short, straight to the point exchange!

The Dispatch Center shall be advised what unit identifies the Incident Commander.

Transfer of Command takes place on the scene only. Only the Incident Commander shall perform radio communications from the scene to the dispatch center.

## **APPENDIX 2**

# **OBSERVATIONS OF NCOSFM/NC-DOI (ISO) REPORTS**

## RECEIVING AND HANDLING ALARMS

- Additional operators are needed on duty at all times.
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Cypress Pointe Fire Rescue
  - Eastwood Volunteer Fire Department
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- Two alarm dispatch circuits to each fire station and/or firefighter.
  - Aberdeen Fire Rescue
  - Pinehurst Volunteer Fire Department
- Alarm dispatch circuits should have recording facilities at the communication center.
  - Aberdeen Fire Rescue
  - Pinehurst Volunteer Fire Department
- For maximum credit in the schedule, there should be four additional incoming telephone lines reserved for receiving notification of fires (and other emergency calls). You have three lines reserved.
  - Carthage Fire Rescue
  - Pinehurst Volunteer Fire Department
  - Westmoore Volunteer Fire Department
- For maximum credit in the schedule, there should be two additional telephone lines for conducting other fire department business. You have one line in addition to the lines reserved for receiving notification of fires (and other emergency calls).
  - Carthage Fire Rescue
  - Pinehurst Volunteer Fire Department
  - Westmoore Volunteer Fire Department
- For maximum credit in the schedule, there should be four additional incoming lines reserved for notification of fires (and other emergency calls) plus two additional lines for conducting other fire department business. Since the designated business line is to a location that is not attended during normal business hours, one line has been deducted from the number of creditable fire lines.
  - Carthage Fire Rescue
  - Pinehurst Volunteer Fire Department
- Both alarms dispatch circuits should have an emergency power supply in accordance with NFPA 1221
  - Aberdeen Fire Rescue
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue

## **FIRE DEPARTMENT**

- Insufficient engine companies
  - Cypress Pointe Fire Rescue
  - Eastwood Volunteer Fire Department
  - Westmoore Volunteer Fire Department
- Insufficient equipment on engine companies
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Eastwood Volunteer Fire Department
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- Inadequate pump testing program
  - Aberdeen Fire Rescue
  - Robbins Fire
- Insufficient engine company response to first alarms of fires in buildings
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Eastwood Volunteer Fire Department
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- Insufficient reserve pumpers/equipment on reserve pumper
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Cypress Pointe Fire Rescue
  - Eastwood Volunteer Fire Department
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- Insufficient ladder/service companies
  - Eastwood Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department

- Insufficient equipment on ladder/service companies
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Cypress Pointe Fire Rescue
  - Eastwood Volunteer Fire Department
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- Insufficient ladder testing program or ladder length
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Cypress Pointe Fire Rescue
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- Insufficient ladder company response to first alarms of fire in buildings
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Cypress Pointe Fire Rescue
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- Insufficient reserve ladder companies
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Cypress Pointe Fire Rescue
  - Eastwood Volunteer Fire Department
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- All sections of response district not within 1.5 miles of a fully equipped engine company and 2.5 miles of a fully equipped ladder, service, engine-ladder or engine service company
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Cypress Pointe Fire Rescue



- Eastwood Volunteer Fire Department
- Robbins Fire
- Seven Lakes Volunteer Fire Department
- Pinehurst Volunteer Fire Department
- Southern Pines Fire Rescue
- Westmoore Volunteer Fire Department
- Insufficient staffing
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Cypress Pointe Fire Rescue
  - Eastwood Volunteer Fire Department
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- Improvement required in training program
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Cypress Pointe Fire Rescue
  - Eastwood Volunteer Fire Department
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- Improvement in pre-fire planning inspection programs
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Cypress Pointe Fire Rescue
  - Eastwood Volunteer Fire Department
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department

## **WATER SUPPLY**

- Insufficient water supply to meet required fire flow (see Water Supply section of this report). For maximum credit in the schedule, the needed fire flows should be available at each location in the city. Needed fire flows of 2500 GPM and less should be available for 2 hours, 3000 GPM for 3 hours and all other for 4 hours.
- All American Water Works Association (AWWA) standard hydrants within 1000 feet of a building, measured as hose can be laid by apparatus, are credited; 1000 GPM for hydrants within 300 feet; 670 GPM for 301 to 600 feet; and 250 GPM for 301 to 1000 feet. Credit is reduced when hydrants lack a pumper outlet, and is further reduced when they have only a single 3-1/2 inch outlet.
  - Aberdeen Fire Rescue
  - Carthage Fire Rescue
  - Cypress Pointe Fire Rescue
  - Eastwood Volunteer Fire Department
  - Robbins Fire
  - Seven Lakes Volunteer Fire Department
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- Insufficient hydrants, pumper outlets
  - Robbins Fire
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- Insufficient hydrant testing program
  - Carthage Fire Rescue
  - Eastwood Volunteer Fire Department
  - Robbins Fire
  - Pinehurst Volunteer Fire Department
  - Southern Pines Fire Rescue
  - Westmoore Volunteer Fire Department
- For credit in the ISO schedule, all cisterns or other suction supply points should be equipped with a dry hydrant with a 6-inch or larger pipe and fittings, a minimum number of 90-degree elbows (preferably no more than two) and suction screen placement so that the dry hydrant will deliver the design capacity in GPM (usually 1,000 gpm) as specified in National Fire Protection Association Standard 1142.
  - Cypress Pointe Fire Rescue

# **APPENDIX 3**

## **FIRE RESPONSE DATA ANALYSIS**

Moore County Fire / Rescue Response  
January 1, 2010 to December 30, 2010

DEPARTMENT	TOTAL CALLS	FIRE CALLS	MEDICAL CALLS	PRIMARY RESPONSE AREA CALLS	MUTUAL AID CALLS	AVERAGE RESPONSE TIME ALL CALLS	AVERAGE RESPONSE TIME PRIMARY DISTRICT
Aberdeen Fire/Rescue	1230	769	461	749	481	4:46	3:36
Carthage Fire/Rescue	474	335	139	420	54	8:44	8:17
Crains Creek Fire	374	236	138	265	109	9:24	7:25
Crestline Fire	113	110	3	59	54	8:54	7:28
Cypress Pointe Fire/Rescue**	438	262	176	382	56	7:00	6:38
Eagle Springs Fire	52						
Eastwood Fire	105						
High Falls Fire/Rescue	328	180	148	222	106	7:21	6:21
Pinebluff Fire	182	170	12	166	4	9:12	9:06
Pinehurst Fire/Rescue	812	796	16	*****	*****	5:38	*****
Robbins Fire	126	256	12	40	86	16:49	10:10
Seven Lakes Fire/Rescue	310	284	26	136	174	13:20	6:18
Southern Pines Fire/Rescue	1668	1028	640	1508	1060	5:03	4:47
West End Fire/Rescue	629						
Westmoore Fire	91						
Whispering Pines Fire	236	232	4	165	71	***	***
Robbins Rescue	No Data						
Seven Lakes EMS	No Data						
	<b>7168</b>	<b>4658</b>	<b>1775</b>	<b>4112</b>	<b>2255</b>		

All data was compiled using Firehouse Software Database

\*\*\* Whispering Pines Fire response time data could not be determined due to incomplete call reports

**TOTAL CALLS:** Total of all calls for service dispatched and responded to.

**PRIMARY RESPONSE AREA:** Calls responded to in a departments primary area of responsibility

**MUTUAL AID:** Calls responded to outside a departments primary area to assist another department

**AVERAGE RESPONSE TIME:** Average response to a call from dispatch time until the first arriving unit on scene

\*\*Cypress Pointe call information is from July 1, 2010 to December 31, 2010 due to the merger.

\*\*\*\*\*Unable to determine which calls are primary response and which ones are not for Pinehurst Fire/Rescue.

These numbers pulled from NFIRS Reporting Firehouse Software not used until July 1, 2010

Moore County Fire / Rescue Response  
January 1, 2011 to December 30, 2011

DEPARTMENT	TOTAL CALLS	FIRE CALLS	MEDICAL CALLS	PRIMARY RESPONSE AREA CALLS	MUTUAL AID CALLS	AVERAGE RESPONSE TIME ALL CALLS	AVERAGE RESPONSE TIME PRIMARY DISTRICT
Aberdeen Fire/Rescue	1406	980	426	878	528	4:55	3:45
Carthage Fire/Rescue	607	480	127	551	56	9:12	8:34
Crains Creek Fire	338	210	128	243	95	8:57	8:15
Crestline Fire	142	138	4	72	66	8:15	5:55
Cypress Pointe Fire/Rescue	986	737	249	836	150	9:59	8:06
Eagle Springs Fire	181	175	6	104	77	9:47	10:40
Eastwood Fire	211	209	2	99	112	6:14	6:09
High Falls Fire/Rescue	510	280	230	466	44	14:31	14:48
Pinebluff Fire	270	160	110	242	28	8:22	8:19
Pinehurst Fire/Rescue	989	960	29	666	323	5:56	5:23
Robbins Fire	275	256	19	168	107	10:48	9:43
Seven Lakes Fire/Rescue	310	284	26	136	174	13:20	6:18
Southern Pines Fire/Rescue	1668	1028	640	1508	1060	5:03	4:47
West End Fire/Rescue	758	387	371	700	58	10:13	10:10
Westmoore Fire	104	90	14	74	30	9:09	9:47
Whispering Pines Fire	439	233	206	396	43	***	***
Robbins Rescue	107						
Seven Lakes EMS	563						
	<b>9864</b>	<b>6607</b>	<b>2587</b>	<b>7139</b>	<b>2951</b>		

All data was compiled using Firehouse Software Database

\*\*\* Whispering Pines Fire response time data could not be determined due to incomplete call reports

**TOTAL CALLS:** Total of all calls for service dispatched and responded to.

**PRIMARY RESPONSE AREA:** Calls responded to in a departments primary area of responsibility

**MUTUAL AID:** Calls responded to outside a departments primary area to assist another department

**AVERAGE RESPONSE TIME:** Average response to a call from dispatch time until the first arriving unit on scene

Moore County Fire / Rescue Response  
January 1, 2012 to December 30, 2012

DEPARTMENT	TOTAL CALLS	FIRE CALLS	MEDICAL CALLS	PRIMARY RESPONSE AREA CALLS	MUTUAL AID CALLS	AVERAGE RESPONSE TIME ALL CALLS	AVERAGE RESPONSE TIME PRIMARY DISTRICT	INCOMPLETE REPORTS FOR 2012
Aberdeen Fire/Rescue	1397	1200	197	905	492	4:41	3:36	
Carthage Fire/Rescue	785	419	366	723	62	7:35	7:12	
Crains Creek Fire	250	179	71	191	59	6:35	6:15	
Crestline Fire	129	122	7	67	62	6:48	5:23	
Cypress Pointe Fire/Rescue	1008	563	445	872	135	6:30	6:12	
Eagle Springs Fire	184	171	13	112	72	9:13	8:54	
Eastwood Fire	212	200	12	*****	*****	7:27	*****	****
High Falls Fire/Rescue	430	211	219	413	17	14:26	14:37	
Pinebluff Fire	319	173	146	303	16	8:51	8:53	
Pinehurst Fire/Rescue	939	897	42	*****	*****	5:55	*****	
Robbins Fire	225	214	11	146	79	16:26	8:11	
Seven Lakes Fire/Rescue	267	243	24	118	149	***	***	
Southern Pines Fire/Rescue	1584	910	674	1438	146	4:53	4:38	
West End Fire/Rescue	765	284	481	714	51	11:53	*****	
Westmoore Fire	84	82	2	52	32	10:01	9:22	
Whispering Pines Fire	479	159	320	440	39	***	***	
Robbins Rescue	85							
Seven Lakes EMS	625							
	<b>9767</b>	<b>6027</b>	<b>3030</b>	<b>6494</b>	<b>1411</b>			

All data was compiled using Firehouse Software Database

\*\*\* Pinehurst and Seven Lakes Fire response time data could not be determined due to incomplete call reports

**TOTAL CALLS:** Total of all calls for service dispatched and responded to.

**PRIMARY RESPONSE AREA:** Calls responded to in a departments primary area of responsibility

**MUTUAL AID:** Calls responded to outside a departments primary area to assist another department

**AVERAGE RESPONSE TIME:** Average response to a call from dispatch time until the first arriving unit on scene

\*\*\*\*\*Unable to determine which calls are primary response and which ones are not for Pinehurst Fire/Rescue, Eastwood, and West End



## **APPENDIX 4**

# **SAMPLE PRE-EMERGENCY PLAN FORMAT<sup>16</sup>**

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<sup>16</sup> Jenaway, W.F., Pre-Emergency Planning, ISFSI, Ashland, MA, 1984.

## MOORE COUNTY FIRE SERVICES FACILITY PRE-PLANNING REPORT

### I. GENERAL INFORMATION

ADDRESS \_\_\_\_\_ DATE \_\_\_\_\_

TYPE OCCUPANCY \_\_\_\_\_

BUSINESS NAME \_\_\_\_\_

TELEPHONE: BUSINESS \_\_\_\_\_ EMERGENCY \_\_\_\_\_

NAME AND ADDRESS OF OCCUPANT \_\_\_\_\_

NAME AND ADDRESS OF OWNER \_\_\_\_\_

MATERIALS OF CONSTRUCTION \_\_\_\_\_

BUILDING DIMENSIONS: LENGTH \_\_\_\_\_ WIDTH \_\_\_\_\_ # FLOORS \_\_\_\_\_

STRUCTURAL NOTES (FIRE WALLS, BREACHES, ETC.) \_\_\_\_\_

DOLLAR STOCK CONCENTRATION:

STOCK

SQ. FT. **STOCK/BLDG. VALUE**

BUILDING \_\_\_\_\_

TOTAL

COMMENTS:

## II. UTILITIES

HEAT: TYPE \_\_\_\_\_ SIZE \_\_\_\_\_ LOCATION (H) \_\_\_\_\_

COOL: TYPE \_\_\_\_\_ SIZE \_\_\_\_\_ LOCATION (C) \_\_\_\_\_

GAS SHUT-OFF (G) LOCATION \_\_\_\_\_

CO. NAME/PHONE NO. \_\_\_\_\_

ELECTRIC SHUT-OFF LOCATION (EL) \_\_\_\_\_

CO. NAME/PHONE NO. \_\_\_\_\_

STEAM/OTHER SHUT-OFF LOCATION (S) \_\_\_\_\_

CO. NAME/PHONE NO. \_\_\_\_\_

WATER SHUT-OFF LOCATION (W) \_\_\_\_\_

CO. NAME/PHONE NO. \_\_\_\_\_

COMMENTS: \_\_\_\_\_

## III. EXTERIOR

OBSTRUCTIONS:

FENCES \_\_\_\_\_ VEHICLES \_\_\_\_\_ WIRES \_\_\_\_\_ WALLS \_\_\_\_\_

\_\_\_\_\_ EQUIPMENT \_\_\_\_\_ TREES \_\_\_\_\_

GATES \_\_\_\_\_ PRODUCTS \_\_\_\_\_ SIGNS \_\_\_\_\_

OTHER/COMMENT \_\_\_\_\_

EXPOSURES:

N: CONSTRUCTION \_\_\_\_\_ HEIGHT \_\_\_\_\_ DISTANCE \_\_\_\_\_

OCCUPANCY \_\_\_\_\_

S: CONSTRUCTION \_\_\_\_\_ HEIGHT \_\_\_\_\_ DISTANCE \_\_\_\_\_

OCCUPANCY \_\_\_\_\_

E: CONSTRUCTION \_\_\_\_\_ HEIGHT \_\_\_\_\_ DISTANCE \_\_\_\_\_

OCCUPANCY \_\_\_\_\_

W: CONSTRUCTION \_\_\_\_\_ HEIGHT \_\_\_\_\_ DISTANCE \_\_\_\_\_

OCCUPANCY \_\_\_\_\_

#### IV. WATER SUPPLY

SOURCE \_\_\_\_\_ TYPE \_\_\_\_\_

HYDRANT LOCATION/GPM AVAILABLE \_\_\_\_\_

GPM NEEDED:

 1.  $\frac{\text{BUILDING LENGTH X WIDTH} + 1,000}{10}$  = \_\_\_\_\_

2. (HT. IN STORIES – 1) X 500 = \_\_\_\_\_

 3. EXPOSURES    0' – 30' = 2,000    31' – 60' = 1,500    = \_\_\_\_\_  
                      61' – 90' = 1,000    91' +        = 500        = \_\_\_\_\_

 4. IF NONHAZARDOUS OCCUPANCY, SUBTRACT  $\frac{1}{4}$  OF (1 + 2 + 3) = \_\_\_\_\_

 5. IF FIRE RESISTIVE OR SEMI-FIRE RESISTIVE BUILDING,  
     SUBTRACT  $\frac{1}{3}$  OF (1 + 2 + 3) = (       )

 6. IF BUILDING IS AUTOMATICALLY SPRINKLERED,  
     SUBTRACT  $\frac{1}{10}$  OF (1 + 2 + 3) = (       )

GPM TOTAL REQUIRED \_\_\_\_\_

GPM AVAILABLE \_\_\_\_\_

GPM EXCESS OR (NEEDED) \_\_\_\_\_

COMMENTS \_\_\_\_\_

#### V. OTHER PROTECTION

 F.D. CONNECTION    A.S. ☐    F.D. CONNECTION STDP. ☐

 EXTINGUISHERS ☐ \_\_\_\_\_

 OTHER ☐ \_\_\_\_\_

(NOTE ON DIAGRAM AS APPROPRIATE)

 HOUSEKEEPING: GOOD ☐    FAIR ☐    POOR ☐

SPECIAL HAZARDS/LOCATION/CONTROLLED (YES/NO)

\* \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

\* \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

\* \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

\* \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

## VI. TACTICAL CONCERNS

### RESCUE:

HIGHLY POPULATED AREAS \_\_\_\_\_

NEED FOR \_\_\_\_\_

INVALIDS \_\_\_\_\_

HOW TO ACCOMPLISH \_\_\_\_\_

### FORCIBLE ENTRY/VENTILATION:

ACCESS POINTS \_\_\_\_\_

LOCKING METHODS \_\_\_\_\_

FORCING METHODS \_\_\_\_\_

BLIND OPENINGS \_\_\_\_\_

FALSE CEILINGS/COCKLOFTS \_\_\_\_\_

POSSIBLE FIRE TRAVEL ROUTES \_\_\_\_\_

METHODS TO CONTROL FIRE TRAVEL \_\_\_\_\_

POTENTIAL MAN-TRAPS/DROP-OFFS \_\_\_\_\_

ROOF LEVEL: CONSTRUCTION CONCERNS \_\_\_\_\_

NOTE ON DRAWING: SCUTTLE HOLES \_\_\_\_\_ SKYLIGHTS \_\_\_\_\_ PENTHOUSE \_\_\_\_\_

HEAVY OBJECTS \_\_\_\_\_ PARAPETS \_\_\_\_\_ VENTS \_\_\_\_\_

OTHER \_\_\_\_\_

COMMENTS \_\_\_\_\_

ADJOINING STRUCTURE USE \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

LOCATION/TYPE OF: (INCLUDE ON DRAWINGS)

STAIRWAYS \_\_\_\_\_

ELEVATORS (E) \_\_\_\_\_

FIRE ESCAPES \_\_\_\_\_

EVACUATION CONCERNS \_\_\_\_\_

\_\_\_\_\_

SALVAGE NEEDS \_\_\_\_\_

\_\_\_\_\_

## VII. POTENTIAL NONFIRE EMERGENCIES

HAZARDOUS MATERIALS ☐ FLOOD ☐ WINDSTORM/TORNADO ☐

EARTHQUAKE ☐ VEHICLE ☐ SNOW ☐

BOMB ☐ OTHER ☐ \_\_\_\_\_

\_\_\_\_\_

EMERGENCY MEDICAL NEEDS \_\_\_\_\_

\_\_\_\_\_

## VII. GENERAL COMMENTS



## **IX. BUILDING PLANS**

PLOT (SHOW RELATIONSHIPS OF BUILDING, STREET, EXPOSURES, WATER SUPPLY)  
FLOOR (SHOW FOR EACH FLOOR: ROOMS, WALLS, DOORS, KEY ACCESS POINTS)  
ROOF (SHOW LOCATION OF ALL OBJECTS)  
TACTICAL (SHOW TACTICAL APPROACH TO INCIDENT)

**MIX AND MATCH TO SHOW BEST DESCRIPTION**

# **APPENDIX 5**

## **SAMPLE COUNTY-WIDE STANDARD OPERATING GUIDELINES**



<i>Moore County Fire Services General Operating Guidelines</i>		
Safety Officer	GOG #:	Revision: 5/22/08
	Effective Date: 5/1/2010	Page 1 of 1

## Health & Safety Officer

(for each Department)

**Objective:** Provide for the integration of health and safety into the tasks performed by personnel.

**Qualifications:** Same as supervisory level for firefighting plus completed a class in fire department safety operations.

**Term:** Two years, nominated by the Chief in concurrence with the Deputy Chief and Assistant Chiefs and subsequently appointed by the Chief.

**Reports to:** Chief -- Fire and Rescue Services

### Job Specifics:

1. May oversee safety at incidents and training, bringing items of concern to the attention of the Incident Commander.
2. Conducts one training session per quarter dealing with safety.
3. Develop, propose to management and implement safety program for the organization, applying NFPA 1500 in concept.
4. Propose to the Chief, Standard Operating Guidelines, new equipment, equipment changes (with justification) for purchase or implementation.
5. Perform accident investigation, review, and implement prevention programs under the direction of the Officer-In-Charge.
6. Manage information related to accidents and identify problems and trends, proposing necessary action to the Chief.
7. This position holds no fire-ground authority other than safety-related issues.
8. Oversee RIT (Rapid Intervention Team) activities

**NOTE:** The health and safety officer can appoint up to two assistant safety officers, upon concurrence with the Chief, with qualifications equal to his/hers.



Moore County Fire Services General Operating Guidelines		
Rehabilitation	GOG #:	Revision: 5/22/08
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## Rehabilitation

### Purpose:

To provide guidance for facilitating the appropriate rehabilitation - rest, rehydration, nutritional support and medical monitoring - of emergency service responders during emergency incidents.

### Guideline:

The goal of this guideline is to provide a structure and guidance for incident commanders, officers, and emergency responders that will support providing rest, rehydration, nutritional support and medical monitoring of emergency responders and fire department members during emergency incidents.

The goal to be achieved by designated emergency responders is support of:

- Adequate rest and recovery from physical and psychological exertion.
- Adequate rehydration and nutritional support
- Medical assessment & monitoring
  - o Detection signs of heat and stress related illness
  - o Triage of personnel following rehab to:
    - Return to duty on scene
    - Relief of on-scene duties
    - Transport to the Emergency Department for further treatment.

### Establishing Rehab:

The incident commander (IC) will establish a Rehab Sector at all emergency incidents where the conditions require rest and rehydration of all personnel. These situations include, but are not limited to:

- Building fires
- Anytime FAST or RIT response is requested
- Prolonged operations (emergency or training)
- Extremes of temperatures

### Company/Crew level rehab (NFPA Standard 1584):

In addition to formal rehab sectors, rehydration solutions will be made available in proximity to SCBA bottles on individual apparatus to allow firefighters to rehydrate during the initial bottle change. All firefighters are encouraged to drink 4 to 8 ounces of rehydration solution during the initial bottle exchange. Company officers will be trained to observe their crews for signs of exhaustion, dehydration, and heat and stress related illnesses.



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<b>Rehabilitation</b>	<b>GOG #:</b>	<b>Revision: 5/22/08</b>
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#### Assignment to the Rehab Sector:

- All firefighter must report to Rehab following the use of two 30-minute SCBA bottles.
- A company officer may assign a member to rehab at any time
- Upon completion of 45 minutes of “active work”
- Any time a member feels any injury or stress (physical/mental)

Personnel assigned to Rehab will follow department accountability procedures when they move to the Rehab sector.

#### Staffing of the Rehab Sector

At the minimum, the rehab sector will be staffed by a dedicated EMT-B with an AED. Ideally, a fully equipped ALS provider will be assigned to the Rehab sector.

The senior medical provider assigned to the Rehab Sector will be designated “REHAB” and advise the IC when the rehab sector is set up and maintain coordination and communication appropriately with Fire/EMS officers on scene.

#### Location of the Rehab:

The Ideal Rehab Sector location will be

- Uphill and up wind of the incident
- Provide warmth in cold conditions
- Provide shade and a cool area in hot conditions
- Close to ambulance staging
- Close to SCBA replenishment
- Free of vehicle exhaust
- Limited media access
- Away from disturbing scenes
- Portable running water (if possible)
- Access to rest rooms (if possible)

#### Rehab Sector Equipment

- Triage (rehab) Tags
- Stretcher
- Oxygen & Supplies
- Drinking Water & Cups
- Ice/Cooling Supplies/Water Vapor (As event/scene appropriate)
- Warming Supplies/Heater (As event/scene appropriate)
- Chairs (As event/scene appropriate)
- Shelter (As event/scene appropriate)
- EKG monitor (ALS)
- Medications (ALS)
- IV Fluids (ALS)



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### Entry in Rehab Sector

Upon entry to rehab, personnel will:

- Surrender accountability tags
- Doff SCBA, helmets, hoods, turnout coats and other PPE as indicated.

Medical Personnel will obtain and log entry vital signs on Rehab Tag as follows:

- Pulse
- Blood Pressure
- Oral Temperature
- Pupils
- Skin Color/Temperature
- General physical Status/observations

Based on parameters in Table 1 firefighters will be assigned either to:

- Medical Monitoring zone or
- The rest zone in the rehab sector

### Rehydration in Rehab Sector

All personnel will drink a minimum of 16 oz of rehydration solution while in the Rehab Sector.

### Duration of Stay in the Rehab Sector

Personnel will spend a minimum of 10 minutes in the Rehab Sector prior to returning to on-scene duties.

### Disposition from the Rehab Sector

Disposition from the Rehab Sector will be determined at the discretion of the ranking medical officer on the scene. There are three possible dispositions from the Rehab sector

- Return to duty after on-scene Rehab
  - o Personnel who have rested for a minimum of 10 minutes, been rehydrated, and who have acceptable vital signs per Table 2 will return to on-scene duty. Personnel with initial triage to the medical monitoring zone of the Rehab sector will require a second set of vital signs and assessment prior to returning to on-scene service.
- Relief of on-scene duties
  - o Retention in Rehab and evaluation for further medical intervention will be mandated as per Table 2. In addition, a firefighter with an oral temperature between 99.5 and 100.9 will not be allowed to re-don SCBA, turnout coat or other PPE. Personnel with abnormal vital signs as defined by Table 1 or Table 2 will be instructed not to return to on-scene duties and receive additional monitoring, rest, and rehydration in the rehab sector, or be transported to the emergency department for medical evaluation.



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Moore County Fire Services General Operating Guidelines		
Tanker Task Force	GOG #:	Revision: 5/22/08
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## Tanker Task Force

**Purpose:** To provide uniform operations with departments participating in tanker shuttle and water supply operations. These guidelines are intended to be followed to eliminate confusion and provide an understanding of what should happen when the need arises for a tanker shuttle.

### I. Activation

- a. **GOAL:** To establish and maintain continuous water supply for rural fire ground operation using primary tankers to deliver water to the fire ground.
- b. **INTENTION:** To provide uniform operations with departments participating in tanker shuttle and water supply operations. These guidelines are intended to be followed to eliminate confusion and provide an understanding of what should happen when the need arises for a tanker shuttle.
- c. **PROCEDURE:** The Officer in Charge of the hosting department will notify **C-COM** and request the Tanker Task Force for the incident. **C-COM** will then dispatch five (5) tankers and two (2) additional engine companies to respond to the incident. (Template attached).  
 The Officer in Charge should request the **MOORE COUNTY TANKER TASK FORCE** as soon as possible due to distances and travel time of the mutual aid tankers and Engine Company. The Tanker Task Force should be activated anytime a continuous water supply is needed in a rural application or when a pressurized source will not meet the needed fire flow requirements. The Officer in Charge of the first responding department will appoint a water supply officer who will establish command of the water supply operations at the dump site. The water supply officer should be familiar with the surrounding locations as to where fill sites (within a two (2) mile radius) can be established, whether from a static source or a pressurized source. The water supply officer will appoint a fill site officer to establish command at the fill site. **C-COM** will notify the water supply officer what tankers and engines will be responding. Anytime the fire location is within two thousand feet (2000') of a water source it is recommended that a supply line be laid instead of utilizing tankers unless the water source does not meet needed fire flow requirements. When responding with tankers there should only be two (2) pumpers with the tanker unless the Officer in Charge is requesting additional firefighters. If additional firefighters are requested they need to dismount the tanker on the first dump and proceed to the staging area for firefighters.



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## II. Dump Site for Tanker Operations

- a. **GOAL:** To establish and maintain continuous water supply for rural fire ground operation using primarily tanker to deliver water to the fire ground.
- b. **INTENTION:** To provide uniform operations with departments participating in tanker shuttle and water supply operations. These guidelines are intended to be followed to eliminate confusion and provide an understanding of what should happen when the need arises for a tanker shuttle.
- c. **PROCEDURE:** The water supply officer will be in charge of the dump site area and will be designated as (**Water Supply**) on the radio to all responding units. Staging, if not already employed, shall be designated by **Water Supply**, remote from the dump site. Staging will not be used when more full tankers are available then can be placed at the dump site alleviating congestion and accident potential at the dump site.

*Considerations for the dump site shall include:*

*Accessibility for incoming tankers. The area shall be large enough for maneuvering and should have access to a minimum of two (2) dump tanks. The dump tanks location. The sump tanks shall be setup with the ability to position two (2) tankers dumping at once. The draft engine shall use one of the main intakes for maximum volume. Draft engine shall use two (2) lengths of hard suction hose, preferably with a low level strainer. A third (3<sup>rd</sup>) hard suction hose will be needed to transfer water to the main dump tank. The distance to the fire ground should be less than one thousand feet (1000'). The department having jurisdiction shall lay a line with the first due attack engine. The draft engine is to lay from the end of the line laid by the first in engine to the dump tank site. Before choosing a dump site, consider routing and direction of travel of travel to the fill site. Avoid setting dump tanks in the congestion of the immediate fire ground. The dump tanks should be set up so the tankers stay on the hard surface and the drafting engine is set up off the road.*

**Water Supply** will designate personnel for backing operations and opening dump valves on all tankers. When placing the dump tanks in relationship to the draft engine, consider all of the possibilities for setup. Use either a square setup or a triangle setup. The type of setup will depend on several factors:

- The amount of room at the dump site
- Width at the dump site
- Width of the road
- Type of dump valve on tankers



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Once the dump site is setup, the pump operator shall establish the initial draft pump pressure of 75 PSI. The **water supply officer** or pump operator shall establish communications with the attack engine. **Water Supply** is to notify the Incident Commander that “water supply is in operation”. Maintain a minimum of fifteen hundred gallons (1500) reserve in the dump tanks with the booster tank in the engine full at all times. At any time the minimum reserve is reached, notify the Incident Commander. Tankers should dump in the primary dump tank as much as possible. **Water Supply** will notify the responding tankers, which tank to dump into. Dispatch the tankers back to the fill site with partial loads after their most efficient portion of the dump is completed. Use the most effective means of dumping for each tanker. Tankers must be equipped with a rapid dump device (jet assist or Newton dump valves).

### III. Fill Site for Tanker Operations

- a. **GOAL:** To establish and maintain continuous water supply for rural fire ground operation using primarily tankers to deliver water to the fire ground.
- b. **INTENTION:** to provide uniform operations with departments participating in tanker shuttle and water supply operations. These guidelines are intended to be followed to eliminate confusion and provide an understanding of what should happen when the need arises for a tanker shuttle.
- c. **PROCEDURE:** Either the Incident Commander or the Water Supply Officer will appoint a Fill Site Officer. The Fill Site Officer will need to have communications to talk to the tankers and the Water Supply Officers. The Fill Site Officer will be designated as (**Fill Site**) on the radio. Staging should be designated remote from the fill site. It is to be used when more empty tankers are available than can be placed at the fill site. This will alleviate congestion and accident potential at the fill site. The nearest water source to the fire ground can be determined by preplan data or the Water Supply Officer.

Considerations for picking the fill site will include:

- The volume of water available by known test results.
- The travel distance, routing and traffic control.

Whenever possible try to achieve a loop route rather than a one-way turn around route. Try to keep the site accessible.

Equipment needed at the water source will include:

- A draft engine
- Any special required fittings
- Suction hose and/or portable pumps



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The fill location shall use the largest available (Gallons per Minute) engine when possible. The engine shall set up four (4) large lines. They should be paired so two (2) tankers can be connected at the same time. Only one (1) tanker is to be filled at a time. Fill with the best possible method, i.e. highest volume for the shortest amount of time. It is preferable to use an engine on a hydrant, but when only a hydrant is used setup two (2) large lines. Consider using a second hydrant for multiple fill sites using the same setup.

When large volume tankers (2,000 gallon or larger) are utilized they should be sent to a different fill site so the fill operation for the smaller tankers will not be slowed down. Another Fill Site Officer may be required at this site.

#### IV. Water Supply Officer

- a. **GOAL:** To establish and maintain continuous water supply for rural fire ground operations using primarily tankers to deliver water to the fire ground.
- b. **INTENTION:** To provide uniform operations with departments participating in tanker shuttle and water supply operations. These guidelines are intended to be followed to eliminate confusion and provide an understanding of what should happen when the need arises for a tanker shuttle.
- c. **PROCEDURE:** The Officer in Charge of the department requesting the **Tanker Task Force** shall appoint a **Water Supply Officer**. This position will be from the requesting department or from a mutual aid department and will be in charge of the dump site. The water supply officer shall be designated as (**Water Supply**) on the radio to all units responding.

**Water Supply** shall check with the Incident Commander to find out the required flow in gallons per minute needed at the fire scene. If a ladder or quint has been requested the flow should be a minimum of five hundred (500) gpm. If the required flow is unknown, **Water Supply** will try to achieve a minimum of four hundred (400) gpm. This flow will adequately flow two (2) 1 ¾ hand lines.

**Water Supply** will coordinate the dump site setup and the supply lines to the fire ground. **Water Supply** will set up staging for the tankers at a remote location from the dump site to alleviate congestion and accident potential at the dump site. **Water Supply** will need to have radio communication to talk to the tankers and the Incident Commander.

*Tanker radio traffic is to be held to minimum. Do not advise status of location unless asked by Water Supply Officer. **Water Supply** will advise incoming tankers which dump tank to use in a timely manner so tanker drivers can respond and react accordingly.*



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## V. General

### DEPARTMENT TANKERS ENGINES

#### EXAMPLE

#### Mineral Springs

<u>1<sup>st</sup> Call</u>	<u>2<sup>nd</sup> Call</u>
Tanker 184, Engine 181	Tanker 132
Tanker 224	Tanker 124
Tanker 264	Tanker 242
Tanker 324	Tanker 144
Tanker 194, Engine 191	Tanker 84

Engines should proceed to the nearest fill sites to load tankers.

Contact Command or the Water Supply Officer for directions.





<i>Moore County Fire Services General Operating Guidelines</i>		
<b>Large and Mega Area Structures</b>	<b>GOG #:</b>	<b>Revision: 5/22/08</b>
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## Large & Mega Area Structures

**Purpose:** To identify critical components to help prepare for and manage incidents in large area (non-high rise) structures.

### Guideline:

The challenges posed by Large/Mega area structures such as big-box stores, warehouses, shopping centers etc. (buildings with 250,000 square feet) require special attention from public safety agencies. These structures, because of their sheer size warrant special considerations when incidents occur. While the probability of a situation is low, the severity potential is high in these structures.

The reality is, that while responses are generally for alarms and non-events, one cannot be lulled into a false incident response pattern and must be prepared through emergency planning and training.

There are four major concerns regarding Large/Mega Area Structures:

#### 1. Size and Construction

These facilities are bigger, have multiple levels, multiple access points, multiple/mixed construction techniques, varied/questionable security team response capabilities, unique architectural features, and most significantly, multiple occupancies. It is easy to encounter multiple false ceilings, partitions, and facades, gaps in sprinkler protection, trash storage and temporary features (e.g seasonal displays). These all present challenges to the fire service and require knowledge, planning and training.

#### 2. Occupancy

Mega structures bring varied occupancies. It is highly probable that in any of the mega or large area structures protected, that we encounter all of the following hazards contributing to fire loading and resultant smoke development, fire extension, evacuation and containment potentials. The collection of commodities includes:

- Food stuffs
- Clothing
- Walk-in coolers and similar man traps
- Beauty aids, florists, drugs
- Paper, plastics, aerosols, and paints
- Cleaners, degreasers, solvents
- Seasonal (charcoal, lighter fluids, fireworks)

In addition, time of day or special events will bring people and evacuation /equipment movement problems



<i>Moore County Fire Services General Operating Guidelines</i>		
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### 3. Protection

Most of these properties have monitored fire detection and suppression equipment, and full-time security. In either case, special attention needs to be given to the area of activation, as it will aid in your decisions of apparatus and manpower staging locations and officer's response points. Internal fixed suppression systems should be considered the **PRIMARY FIRE ATTACK METHOD** in these structures and supported first, before manual fire-fighting takes place.

### 4. Exposures

When an incident occurs, there are primarily internal exposures to be concerned with. However, if the incident is significant, the following may need to be contacted to respond:

- Health Department/Food & Drug Administration
  - o Food stuffs, sanitary products, etc.
- Department of Environmental Resources/Fish Commission
  - o Air or water contamination
- Utilities
  - o Shut-off assistance
- Alarm Company
  - o Monitoring issues, service cut-off or resumption, system analysis
- Business Owner/Operator
  - o Access, information, securing of structure/space
- News Media
  - o Pre-prepare information for release

The command post needs to be identified as the control point for all information dissemination and contact location when support units/mutual aid companies arrive.



<i>Moore County Fire Services General Operating Guidelines</i>		
<b>Large and Mega Area Structures</b>	<b>GOG #:</b>	<b>Revision: 5/22/08</b>
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**OFFICER CONSIDERATIONS** – The goal in structures such as this is to use knowledge, fixed systems and manual efforts to keep the incident small. Considering the Strategic Guidelines for Emergency Response (GOG \_\_\_\_\_) and the Incident Command System (GOG \_\_\_\_\_) the following items warrant consideration in this type structure:

- Determine needs, per alarm response
- Water supply
- Collapse potential
- Master stream points within and outside the structures
- Interior large and small diameter hose lay requirements
- Aerial observation points
- Incident command system/Division designation
- Communication/radio system limitations
- Line layout/access
- Smoke removal/movement systems
- Control of stairways & elevators
- Ventilation
- Automatic sprinkler system backup
- Extension of exposures



<i>Moore County Fire Services General Operating Guidelines</i>		
<b>Roadway and Roadside Scene Safety</b>	<b>GOG #:</b>	<b>Revision: 5/22/08</b>
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## **Roadway and Roadside Scene Safety**

### **Purpose:**

To establish guidelines for protection of personnel and incident victims at all roadway or roadside incident scenes.

### **Policy:**

This procedure identifies parking practices for fire department apparatus and vehicles that will provide maximum protection and safety for personnel operating in or near moving vehicle traffic. It also identifies several approaches for individual practices to keep firefighters safe while exposed to the hazardous environment created by moving traffic.

It shall be the policy of the fire department to position apparatus and other emergency vehicles at a vehicle-related incident on any street, road, highway, or expressway in a manner that best protects the incident scene and the work area. Such positioning shall afford protection to fire department personnel, law enforcement officers, tow service operators and the motoring public from the hazards of working in or near moving traffic.

All personnel should understand and appreciate the high risk that personnel are exposed to when operating in or near moving vehicle traffic. Responders should always operate within a protected environment at any vehicle-related roadway incident.

Always consider moving vehicles as a threat to your safety. At every vehicle-related emergency scene, personnel are exposed to passing motorists of varying driving abilities. At any time, a motorist may be driving without a legal driver's license.

Approaching vehicles may be driven at speeds from a creeping pace to well beyond the posted speed limit. Some of these vehicle operators may be vision impaired, under the influence of alcohol and/or drugs, or have a medical condition that affects their judgment or abilities. In addition, motorists may be completely oblivious to your presence due to distractions caused by cell phone use, loud music, conversation, inclement weather, and terrain or building obstructions. Approaching motorists will often be looking at the scene and not the roadway in front of them. Assume that all approaching traffic is out to get you until proven otherwise.

Nighttime incidents requiring personnel to work in or near moving near traffic are particularly hazardous. Visibility is reduced and driver reaction time to hazards in the roadway is slowed.



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## Terminology

The following terms shall be used during incident operations, post-incident analysis, and training activities related to working in or near moving traffic.

- *Advance Warning*- notification procedures that advise approaching motorists to transition from normal driving status to that required by the temporary emergency traffic control measures ahead of them.
- *Block*- positioning a fire department apparatus on an angle to the lanes of traffic creating a physical barrier between upstream traffic and the work area. Includes ‘block to the right’ or ‘block to the left’.
- *Buffer Zone*- the distance or space between personnel and vehicles in the protected work zone and nearby moving traffic.
- *Downstream*- the direction that traffic is moving as it travels away from the incident scene.
- *Flagger*- a fire department member assigned to monitor approaching traffic and activate an emergency signal if the actions of a motorist do not conform to established traffic control measures in place at the highway scene.
- *Shadow*- the protected work area at a vehicle-related roadway incident that is shielded by the block from apparatus and other emergency vehicles.
- *Taper*- the action of merging several lanes of moving traffic into fewer moving lanes.
- *Temporary Work Zone*- the physical area of a roadway within which emergency personnel perform their fire, EMS and rescue tasks at a vehicle-related incident.
- *Transition Zone*- the lanes of a roadway within which approaching motorists change their speed and position to comply with the traffic control measures established at an incident scene.
- *Upstream*- the direction that traffic is traveling from as the vehicles approach the incident scene.

## Safety Benchmarks

All emergency personnel are at great risk of injury or death while operating in or near moving traffic. There are several specific tactical procedures that should be taken to protect all crew members and emergency service personnel at the incident scene including:

- Never trust approaching traffic
- Avoid turning your back to approaching traffic
- Establish an initial “block” with the first arriving emergency vehicle or fire apparatus
- Always wear structural firefighting helmet
- Always wear the Class II or Public Safety highway safety vest at all vehicle-related emergencies or when working in or near a roadway
- Turn off all sources of vision impairment to approaching motorists at night time incidents including vehicle headlights and spotlights
- Use fire apparatus and police vehicles to initially redirect the flow of moving traffic



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- Establish advance warning and adequate transition area traffic control measures upstream of incident to reduce travel speeds of approaching motorists
- Use traffic cones and/or cones illuminated by flares where appropriate for sustained highway incident traffic control and direction
- Establish a fire department member assigned to the “Flagger” function to monitor approaching traffic and activate an emergency signal if the actions of a motorist do not conform to established traffic control measures in place at the highway scene

### **Apparatus and Emergency Vehicle Benchmarks**

Listed below are benchmarks for Safe Parking of apparatus and emergency vehicles when operating in or near moving traffic.

- Always position first-arriving apparatus to protect the scene, patients, and emergency personnel.
- Initial apparatus placement should provide a work area protected from traffic approaching in at least one direction.
- Angle apparatus on the roadway with a “block to the left” or a “block to the right” to create a physical barrier between the crash scene and approaching traffic.
- Allow apparatus placement to slow approaching motorists and redirect them around the scene.
- Use fire apparatus to block at least one additional traffic lane more than that already obstructed by the crashed vehicle(s).
- When practical, position apparatus in such a manner to protect the pump operator position from being exposed to approaching traffic.
- Positioning of large apparatus must create a safe parking area for EMS units and other fire vehicles. Operating personnel, equipment, and patients should be kept within the “shadow” created by the blocking apparatus at all times.
- When blocking with apparatus to protect the emergency scene, establish a sufficient size work zone that includes all damaged vehicles, roadway debris, the patient triage and treatment area, the extrication work area, personnel and tool staging area, and the ambulance loading zone.
- Ambulances should be positioned within the protected work area with their rear patient loading door area angled away from the nearest lanes of moving traffic.
- Command shall stage unneeded emergency vehicles off the roadway or return these units to service whenever possible.

At all intersections, or where the incident may be near the middle lane of the roadway, two or more sides of the incident will need to be protected.

Law enforcement vehicles must be strategically positioned to expand the initial safe work zone for traffic approaching from opposing directions. The goal is to effectively block all exposed sides of the work zone. The blocking of the work zone must be prioritized, from the most critical or highest traffic volume flow to the least critical traffic direction.





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For first arriving engine or truck companies where a charged hose line may be needed, block so that the pump panel is “downstream,” on the opposite side of on-coming traffic. This will protect the pump operator.

At intersection incidents, consider requesting law enforcement response. Provide specific directions to law enforcement officers as to exactly what your traffic control needs are. Ensure that law enforcement vehicles are parked in a position and location that provides additional protection of the scene.

Traffic cones shall be deployed from the rear of the blocking apparatus toward approaching traffic to increase the advance warning provided for approaching motorists. Cones identify and only suggest the transition and tapering actions that are required of the approaching motorist.

Personnel shall place cones and flares and retrieve cones while facing oncoming traffic.

Traffic cones shall be deployed at 15-foot intervals upstream of the blocking apparatus with the furthest traffic cone approximately 75 feet upstream to allow adequate advance warning to drivers

Additional traffic cones shall be retrieved from law enforcement units to extend the advance warning area for approaching motorists.

### **Incident Command Benchmarks**

The initial-arriving company officer and/or the Incident Commander must complete critical benchmarks to ensure that a safe and protected work environment for emergency scene personnel is established and maintained including;

- Ensure that the first-arriving apparatus establishes an initial block to create an initial safe work area.
- Assign a parking location for all ambulances as well as late-arriving apparatus.
- Lanes of traffic shall be identified numerically as “Lane 1”, “Lane 2”, etc., beginning from the right to the left when right and left are considered from the approaching motorist’s point of view. Typically, vehicles travel a lower speed in the lower number lanes.
- Directions “Right” and “Left” shall be as identified as from the approaching motorist’s point of view left or right.
- Instruct the driver of the ambulance to “block to the right” or “block to the left” as it is parked at the scene to position the rear patient loading area away from the closest lane of moving traffic.
- Ensure that all ambulances on-scene are placed within the protected work area (shadow) of the larger apparatus.



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- Ensure that all patients loading into ambulances is done from within a protected work zone.
- The initial company officer and/or Incident Commander must operate as the Scene Safety Officer until this assignment is delegated.
- Command shall ensure that traffic signal preemption strobe systems (if so equipped) are turned OFF and that other emergency lighting remains ON.
- At residential medical emergencies, Command shall direct ambulances to park at the nearest curb to the residence for safe patient loading whenever possible.

### **Emergency Crew Personnel Benchmarks**

Listed below are benchmarks for safe actions of individual personnel when operating in or near moving vehicle traffic.

- Always maintain an acute awareness of the high risk of working in or near moving traffic. Act as if they are out to get you!
- Never trust moving traffic
- Always look before you move
- Always keep an eye on the moving traffic
- Avoid turning your back to moving traffic
- Personnel arriving in crew cabs of fire apparatus should exit and enter the apparatus from the protected 'shadow' side, away from moving traffic.
- Officers, apparatus operators, crew members in apparatus with individual jump seat configurations and all ambulance personnel must exit and enter their units with extreme caution remaining alert to moving traffic at all times.
- Class II or Public Safety vest and helmet must be donned prior to exiting the emergency vehicle.
- Always look before opening doors and stepping out of apparatus or emergency vehicle into any moving traffic areas. When walking around fire apparatus or emergency vehicle, be alert to your proximity to moving traffic.
  - Stop at the corner of the unit, check for traffic, and then proceed along the unit remaining as close to the emergency vehicle as possible.
  - Maintain a 'reduced profile' when moving through any area where a minimum 'buffer zone' condition exists.
- Law enforcement personnel may place traffic cones or flares at the scene to direct traffic. This action builds upon initial fire department cone deployment and can be expanded, if needed, as later arriving law enforcement officers arrive. Always place and retrieve cones while facing on-coming traffic.
- Placing flares, where safe to do so, adjacent to and in combination with traffic cones for nighttime operations greatly enhances scene safety. Where safe and appropriate to do so, place warning flares to slow and direct approaching traffic.



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## High-Volume, Limited Access, Highway Operations

High-volume limited access highways include the expressways, toll ways, freeways, and multi-lane roadways within the fire department response area. Typically, law enforcement and Department of Transportation (DOT) agencies have a desire to keep the traffic moving on these high-volume thoroughfares. When in the judgment of fire department command it becomes essential for the safety of operating personnel and the patients involved, any or all lanes, shoulders, and entry/exit ramps of these limited access highways can be completely shut down. This, however, should rarely occur and should be for as short a period of time as practical.

Unique Safe Parking procedures at expressway, toll way, freeway, and limited-access, high-volume multi-lane roadway incidents;

- First-arriving engine company apparatus shall establish an initial block of the lane(s) occupied by the damaged vehicle plus one additional traffic lane.
- A ladder truck apparatus shall be automatically dispatched to all vehicle-related incidents on all limited-access, high-volume expressways, toll way, freeway, and highways.
- The primary assignment of this Truck company apparatus and crew shall be too;
  - Establish an upstream block occupying a minimum of two lanes plus the paved shoulder of the highway or blockage of three driving lanes of traffic upstream of the initial block provided by the first-due apparatus.
  - The position of this apparatus shall take into consideration all factors that limit sight distance of the approaching traffic including ambient lighting conditions, weather-related conditions, road conditions, design curves, bridges, hills and over- or underpasses.
  - Traffic cones and/or cones illuminated by flares should be placed upstream of the ladder truck apparatus by the ladder truck crew at the direction of the company officer.
  - Traffic cones on limited-access, high-volume roadways shall be placed farther apart, with the last cone approximately 150 feet “upstream”, to allow adequate warning to drivers. Personnel shall place cones and flares and retrieve cones while facing the traffic.
  - Assign a Flagger person to monitor the response of approaching motorists as they are directed to transition to a slower speed and taper into merged lanes of traffic.
  - Notify Command on the incident operating channel of any approaching traffic that is not responding to the speed changes, transition, tapering and merging directions.
  - Flagger shall activate a pre-determined audible warning to operating personnel of a non-compliant motorist approaching.



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- Driver operator of ladder truck apparatus shall sound a series of long blasts on the apparatus air horn to audibly warn all operating personnel of the concern for the actions of an approaching motorist.
- Law enforcement vehicles will be used to provide additional blocking of additional traffic lanes as needed. Ambulances shall always be positioned within the safe work zone.
- Staging of additional companies off the highway may be required. Ambulances may be brought onto the highway scene one or two at a time. An adequate size multi-patient loading area must be established.
- Command should establish a liaison with law enforcement as soon as possible to jointly coordinate a safe work zone and to determine how to most efficiently resolve the incident and establish normal traffic flows.
- The termination of the incident must be managed with the same aggressiveness as initial actions. Crews, apparatus, and equipment must be removed from the highway promptly, to reduce exposure to moving traffic and minimize traffic congestion.

### **Officer's Safe Parking "Cue Card"**

- "Block" with first-arriving apparatus to protect the scene, patients, and emergency personnel
- Block at least one additional lane
- Block so pump panel is "downstream"
- Block most critical or highest traffic volume direction first
- Consider requesting additional law enforcement assistance
- Crews wear proper PPE w/Helmet
- Wear helmet at all times
- Always wear Class II or Public Safety vest when operating in or near a roadway
- Establish more than adequate advance warning
- Traffic cones at 15' intervals
- Deploy minimum 5 cones upstream
- Cones only "Suggest" they do not Block!
- Expand initial safe work zone
- Direct placement of ambulances
- Ensure ambulances park within shadow of larger apparatus as directed
- Lane 1 is furthest right lane, next is Lane 2, then Lane 3, etc. from approaching motorist's point of view
- Direct ambulance to "block to the right" or "block to the left" to protect loading doors
- Place ambulance patient loading area facing away from closest lane of moving traffic
- All patient loading into ambulances is done from within a protected work zone
- You are the Scene Safety Officer
- Consider assigning firefighter as upstream "Spotter" as necessary for approaching traffic



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## Night or Reduced Light Conditions

- Turn OFF vehicle headlights
- Turn OFF traffic signal preemption strobes (if so equipped)
- Provide overall scene lighting
- All personnel in PPE with helmets
- Illuminate cones with flares if possible
- Consider additional Truck company for additional upstream “Block”
- Limited access, high-volume highway incidents
- Establish initial block: minimum two lanes
- Ladder truck establishes upstream block
- Two lanes plus paved shoulder or three driving lanes
- Place cones and/or cones illuminated by flares upstream of ladder truck apparatus, last cone approximately 150 feet “upstream” of apparatus
- Establish Flagger position, monitor approaching traffic sound emergency signal as necessary
- Driver operator of ladder truck apparatus sound a series of long blasts on apparatus air horn as necessary
- Use law enforcement vehicles for additional blocking
- Stage additional companies off highway
- Establish liaison with law enforcement
- Terminate incident

For more information regarding safety for responders working in or near a roadway, refer to the following website: <http://www.respondersafety.com>

*Note– Public Safety reflective vests were under development at this time of publication. An ANSI standard is expected which will provide a specialized reflective vest for responders that includes a “breakaway” feature and optional color coding by discipline.*

*Note– Departments must comply with Section 6i of MUTCD (Manual of Uniform Traffic Code Devices) and ensure their SOPs are compliant.*



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## 2-In 2-Out

### PURPOSE

To establish standard guidelines and procedures that will serve to provide a safe working environment for all volunteer members and to reduce the risk of injury or death as a result of department operations at emergency incidents. This guideline will serve to comply with the 2-In, 2-Out provisions in the OSHA Respiratory Protection Final Rule (29 CFR Part 1910).

### GUIDELINE

To operate as safely and effectively on emergency scenes as possible, the volunteer fire department has established the following procedures which shall be adhered to by all personnel.

### DEFINITIONS

**IDLH Atmosphere:** An atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.

**Rapid Intervention Team (RIT):** A specifically designated team (minimum two members) designed to provide personnel for the rescue of emergency service members operating at emergency incidents if the need arises.

**Incipient Fire:** A fire in the initial or beginning stage which can be controlled or extinguished by portable fire extinguishers. However, it is the intent of the fire department to deploy a minimum of a 1 ¾ inch hand line any time there is a fire inside of a structure. Though the incipient fire may actually be controlled by a smaller line or portable extinguisher, a 1 ¾ inch hand line shall be used in most cases.

**PAR:** Personnel Accountability Report as defined in volunteer fire department GOG.

**Qualified Firefighter:** Any individual possessing a North Carolina Firefighter One Certification or equivalent education





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## PROCEDURES:

- A. The first arriving company officer shall determine if the incident involves an “IDLH atmosphere”. At no time shall individuals enter an IDLH atmosphere independently. Teams of at least two (2) SCBA equipped personnel shall be required for entry into such an atmosphere at all times.
- B. In fire situations, it will be necessary for the incident commander to determine if the fire is in the incipient stage. A team of two qualified firefighters may take action according to standard operating procedures to extinguish an incipient fire without the establishment of an RIT.
- C. If the presence of an “IDLH atmosphere has been determined, and there are less than 5 qualified firefighters on the scene, the companies shall wait until at least 5 qualified firefighters are assembled on the scene before initiating operations within the IDLH atmosphere. Two qualified firefighters may begin operating within the IDLH atmosphere as long as two additional qualified firefighters (properly trained and equipped) are outside the IDLH atmosphere to serve as the initial RIT, and one person maintains the operation of the pump. One of the two initial RIT members must be responsible for establishing the on-scene accountability system. The second RIT member may be assigned other tasks and/or functions so long as these tasks and/or functions can be abandoned, without placing any personnel at additional risk, if rescue or assistance is needed.
- D. Members operating in IDLH atmospheres must use SCBA and work in teams of two or more. They must also maintain voice or visual contact with each other at all times. Portable radios and/or safety rope tethering are not acceptable as replacements for voice or visual contact. Radios can (and should) be used for fireground communications, including communications between interior and exterior teams. They cannot, however, be the sole tool for accounting for one’s partner during interior operations. Team members must be in close proximity to each other to provide assistance in case of an emergency.
- E. Until five firefighters are assembled, operations outside of the IDLH atmosphere shall commence immediately in accordance with standard operating procedures. Such operations include, but are not limited to: establishment of water supply; exterior fire attack; establishment of a hot zone; utility control; ventilation; placement of ladders; forcible entry; exposure protection; and any other exterior operations deemed appropriate by the incident commander.
- F. As the incident progresses to the point of more than one interior team, an identified and dedicated Rapid Intervention Team shall be established and positioned immediately outside the IDLH atmosphere. This team shall be fully outfitted with protective clothing and SCBA with the air mask in a ready position to don, a portable radio, and other required rescue equipment. Both team members will be dedicated to perform rescue and shall not be assigned other duties (except for incident accountability) unless a replacement team member is assigned. A charged hose line shall be dedicated to this team.



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- G. If the incident is in a high or mid-rise structure, large area facility, or other areas with multiple IDLH atmospheres, the incident commander shall establish the necessary number of rapid intervention teams so that rescue can be accomplished without a deployment delay. A team should be considered for each remote access point on any large facility. The incident commander will be responsible for determining the number of teams needed based on the specifics of the incident.
- H. If a firefighter(s) becomes trapped, disabled, or otherwise in need of assistance by the Rapid Intervention Team, the incident commander shall announce this action to Fire Alarm via radio. In turn, Fire Alarm shall simulcast the emergency message signal and announce that a rescue is in progress. All radio traffic not directly related to the firefighter(s) rescue shall cease immediately to facilitate the rescue. An immediate personnel accountability report (PAR) shall be conducted. The incident commander shall then assign personnel to assist in the rescue and to assist the rapid intervention team as deemed appropriate. The RIT shall continue to inform the incident commander of their progress and actions taken during the rescue.
- I. Should the incident commander order a building evacuation, a PAR shall be conducted (as outlined in the Operations Manual, Book Number 3, and Personnel Accountability System”) immediately after the building has been evacuated. The RIT shall remain in place for immediate activation should a team fail to report during the PAR.

### **EXCEPTIONS:**

- A. If upon arrival at a fire emergency, members find a fire in its incipient stage, extinguishment of such a fire shall be permitted with less than five persons on the scene. Extinguishment of outside fires such as dumpster, brush, or automobiles, shall be permitted with less than five persons, even if SCBA are being worn.
- B. If upon arrival at the scene, members find an imminent life-threatening situation or probable life threatening situation where immediate action may prevent the loss of life or serious injury, such action shall be permitted with less than five persons on the scene when the probability of a rescue is made in accordance with normal size-up indicators and fireground evaluation factors. (Examples: report of persons inside, signs of persons inside, etc.)

The incident commander shall evaluate the situation, considering the occupancy, time of day, day of week, reports from persons on the scene, signs that persons may be inside the structure, etc. Entry may be considered if signs indicate a probable victim rescue. In the absence of clear signs or a report from a responsible person on the scene that people are in the structure, it is to be assumed that no life hazard exists and interior attack shall not be initiated until the minimum five (5) persons arrive on the scene.



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- C. If members are going to initiate actions that would involve entering an “IDLH atmosphere” because of a probable or imminent life-threatening situation where immediate action may prevent the loss of life or serious injury, and personnel are not on the scene to establish an initial rapid intervention team, the members should carefully evaluate the level of risk that they would be exposed to by taking such actions. In all cases a minimum of two (2) people shall form the entry team.
- D. If it is determined that the situation warrants immediate intervention and five people are not on the scene, the incident commander shall notify Fire Alarm of the intent to enter the “IDLH atmosphere” prior to the availability of a rapid intervention team. Fire Alarm shall then notify all responding companies of this action and receive acknowledgment from each company that the transmission was received.
- E. Should the incident commander on the scene deviate from this guideline, the actions taken shall be documented on the fire incident report and forwarded through the chain of command to the fire chief. The narrative of this report shall be by the incident commander and outline the reasons, rationale, justification, and end result of the deviation from the standard operating procedure. All information in the report shall be of enough depth so as to provide a comprehensive understanding of the actions taken.



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## May Day

### PURPOSE

The purpose of this guideline is to identify the roles and responsibilities of all parties involved at an incident where a “May-Day” has been transmitted.

### GUIDELINE

The radio message “May-Day” will be used by firefighters to report their status as being lost, trapped or injured and in need of rescue. Any member may use a “May-Day” to report a lost firefighter. Any report of “May-Day” will receive priority radio traffic. The term “May-Day” will be reserved only to report a lost, trapped or injured firefighter.

### PROCEDURE

In the event of a firefighter(s) becoming trapped, lost, entangled, disoriented, and injured or in need of other assistance, the firefighter(s) shall remain calm. The firefighter should call on the operations or dispatch channel and state “May-Day May-Day May-Day” to clear the radio traffic on that channel once the IC has acknowledged the “May-Day”. You should give:

1. Your radio number.
2. Your crew’s designation.
3. What your status is in regards to any injuries or entrapments.
4. What the fire and smoke conditions are.
5. Your point of entry into the structure.
6. Your last know position.
7. Your air supply status.

You should move to a safe location if possible and activate your PASS alarm and remain in radio contact with command and the RIT team as long as possible. Stay in one location so that we can find you if you move around we will have to chase you so please remain in one location.

The guidelines outlined on the following pages will be followed at ANY incident involving the use of a “May-Day”.

### Command Responsibilities

Command will maintain an awareness of the location of firefighters on the fire ground primarily through assignments and the individual accountability system. In the event that a firefighter cannot be located through a PAR (Personnel Accountability Record), or any other time a firefighter is missing. Any member can announce a “May-Day”. The term “May-Day” will indicate a lost, trapped or injured firefighter. Command shall respond to a “May-Day” by implementing a rescue plan for the firefighter(s) through communication with the leader of the Rapid Intervention Team (RIT).



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### Missing Firefighter

Company Officers and individual firefighters who suspect a firefighter is missing must notify the Incident Commander (IC) immediately. The IC MUST ALWAYS assume that the missing firefighter is lost in the building until the member is located and accounted for. The system must include the ability to identify when a firefighter is going to be delayed beyond his / her SCBA airtime. The plan should include:

- Fire operations during rescue efforts
- Expanding organization
- Establishing/deploying RIT
- Assign an Officer to manage the rescue / RIT
- Medical Operations
- Safety
- Support Activities

### Change the Strategy and Plan to a High Priority Effort

The IC must restructure his / her strategy and action plan to include a firefighter rescue effort. This may seem obvious to most. However, incident commanders can become overwhelmed by the emotion related to the crisis at hand and may become hooked on reacting to tasks rather than looking at the global picture. This can lead to disorganization and delays that can be fatal to the missing firefighter.

Accurate information must be immediately obtained. Rapid commitment of the RIT must occur. These resources must be organized and controlled. The command organization must expand. The strategy, plan, and objectives must be quickly communicated to the Command Staff and Sector Officers. The plan and rescue activities must be continually monitored and revised as necessary. Conditions and updated information cause changes in plan and objectives. The IC must communicate any changes to the Command Staff and Sector Officers.

### Immediately Request Additional Alarms

In many situations, all resources on-scene may already be committed to firefighting positions. Some firefighters *may* already be approaching physical exhaustion; their SCBA's may be nearly empty. Relocating committed forces is difficult and slow. At least one additional station with an EMS unit and an additional RIT should be immediately requested upon report of a lost, trapped, or injured firefighter. Additional resources may be requested based on circumstances and potential. There should be no hesitation in requesting additional resources.



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### Include EMS when Requesting Additional Resources

Medical personnel will be needed to treat and assist rescued firefighters. The IC must ensure that an adequate number of paramedics are responding as well as an adequate number of ambulances to transport injured firefighters. The IC should understand that the situation is critical, and that firefighters tend to overexert themselves when searching for a missing firefighter, resulting in additional firefighters being injured. Adequate medical resources must be ready and available and on site.

### Commit the Rapid Intervention Team (RIT)

All working structure fires will have a Rapid Intervention Team (RIT) assigned. This team shall be fully outfitted with protective clothing, SCBA, etc., and monitoring all radio traffic. Upon report of a missing firefighter, the IC has a completely fresh crew fully outfitted, available for commitment to an immediate search and rescue of the last known area of the missing firefighter(s). The RIT must be immediately sent to the rescue area. Once the RIT is mobilized, another RIT must be started to take their position in waiting.

### Withdraw Companies from the Affected Area, if Appropriate, to obtain a PAR and Reconnaissance Information

In some situations, such as a collapse or explosion, crewmembers may get separated. The only practical method to obtain an accurate PAR of effected crews may be to withdraw them to the exterior. In addition, withdrawal may be the only way to quickly obtain accurate information and reconnaissance on exactly where trapped members may be, routing to victims, debris locations, and the type of rescue equipment that may be needed for extrication. Once the roll call and reconnaissance information is quickly obtained, crews can be re-assembled into a more organized rescue effort.

Withdrawal is a judgment call based on circumstances at the time, information available, and resources. It may not be practical or possible to do so. However the absolute need for an accurate roll call and information on missing firefighters remains a critical priority. If it is determined not to withdraw, a detailed roll call must be obtained from each sector for all crews operating under his / her direction.

### Do not Abandon Firefighting Positions — Hold Positions and Prevent Fire Spread

The reasons for the RIT and the immediate request for additional resources, becomes very clear with this critical fire ground need. If a missing firefighter(s) is to survive, the IC must keep fire fighters out of the rescue area. With a RIT in place, the IC can initiate an immediate rescue effort without withdrawing or relocating fire combat companies.

In most situations the IC cannot allow fire spread. If anything, these fire combat positions need to be reinforced. Additional companies should be sent to priority positions to keep the fire out of the rescue area.





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### Individual Responsibilities

- To follow directions from superiors
- To continue with assignment unless otherwise directed
- To keep your cool

Every member on the scene should listen specifically for a “May-Day” as fire ground noise could cover a call for the “May-Day”.

### Dispatch Center Guideline

When an emergency responder identifies that he/she, or a member of his/her team, is lost, entangled, trapped, disoriented, injured or in need of assistance, he/she shall (if possible) transmit a verbal message on the tactical channel to Incident Command and state: “MAY-DAY, MAY-DAY, MAY-DAY”

Upon receipt of a “MAY-DAY” from Incident Command, C-COMM shall immediately transmit alert tone three (3) for three (3) seconds followed by a verbal message stating “MAY-DAY Acknowledged, **all** fire ground operations switch your traffic to **Operations channel** (e.g., Fire 2, Fire 3, State Fire)”. This message shall be stated on both the dispatch (e.g., County Fire 1 or Monroe Fire) and operations channel for that incident. In addition, the channel marker shall be activated in order to provide an open and clear frequency for which the Mayday was transmitted.

The C-COMM Supervisor shall take over all other EMS/Fire channels and the EMS/Fire telecommunicator along with the Incident Commander or their designee shall monitor the channel that the Mayday was transmitted on. C-COMM Supervisor shall dispatch one (1) additional EMS unit and one (1) additional fire station, emergency traffic to the staging area, or unless otherwise directed by Incident Command. In addition, the on-duty EMS Supervisor and the on-call Fire Investigator shall be notified.

All fire channels shall be monitored closely for any transmissions by the missing firefighter(s). If the missing firefighter(s) transmits on another channel other than the assigned operations channel, the telecommunicator shall remain in contact with that firefighter, and C-COMM shall notify Incident Command. It is essential that once communications have been established, they not be lost.

At the time Incident Command advises the “MAY-DAY” situation is clear, the telecommunicator shall advise on the dispatch (e.g., County Fire 1, Monroe Fire) and operations channel (Fire 1, Fire 2, State Fire) “**MAY-DAY CLEAR, ALL UNITS RESUME NORMAL RADIO TRAFFIC**”



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## Incident Command

### BACKGROUND

At the 75<sup>th</sup> annual conference of the North Carolina Association of Fire Chiefs in Winston-Salem, North Carolina in August 2007, the Executive board presented to the membership and adopted the following position statement related to the use of incident command and the role of the Incident Commander:

### GUIDELINE

All fire personnel should operate under the National Incident Management System; all fire fighters ground commanders are to announce a fixed command post position when establishing command; all fire ground commanders are to remain in the command post and not roam around the incident or participate in tactical operations; and fire ground commanders should utilize fire ground functional supervisors to relay operational information in order to maintain effective communications and safe incident management.

#### Basis

The basis for this position is our deep concern for the safety of our firefighters and the knowledge that Incident command is still not being used properly or in some instances not being established at any point during an operation. There have been instances where the Incident Commander has not established a point (location) of command and/or the Incident Commander roams from one side of a structure to the other and in some cases has actually entered the structure as the Incident Commander. In fact, the position of Incident Commander is compromised and becomes ineffective when this occurs. This type of behavior does not comply with recognized Incident Command protocol and more importantly it compromises the safety of every firefighter on the fire scene.

Historical studies of catastrophic events involving firefighters are rarely attributed to lack of resources or the breakdown of tactical operations. These studies do however, regretfully, point toward inadequate incident management as the single most common reason for incidents resulting in multiple firefighter deaths. It is sad to say that history continues to repeat itself and we continue to experience needless tragedies among our ranks because of our lack of commitment to proven methods of effective incident management.

#### Basic Principles

The following comments are offered as an endorsement for utilizing Incident Command, and a challenge and an appeal for all fire ground commanders to function within the established parameters of Incident Command. All elements of the ICS should be utilized to the fullest with special emphasis on the basic principles of incident command - identifying the Incident Commander, identifying the physical location of the command post, manageable span of control, identifying the chain of command, providing for unity of command and the accountability of responders. These basic principles should be established in the earliest stages of all incidents.



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The Incident Commander for the typical incident will and should assume command and announce the location of a field command post. The Incident Commander then remains in charge unless formally relieved providing a single point of contact for individual fire ground supervisor's functional areas. This type of action allows for the IC to manage the total operation providing for a manageable span of control thus creating the safest fire ground organizational structure currently available to the fire service.

The following are points of interest taken from the ICS -#300: Intermediate ICS for Expanding Incidents student manual. These principles clarify reporting relationships and eliminate the confusion caused by multiple, conflicting directives. Incident managers at all levels must be able to command the incident and control the action of all personnel under their supervision:

**Manageable Span of Control:** Span of control is the key to effective and efficient incident management. Supervisors must be able to adequately supervise and control their subordinates, as well as communicate with and manage all resources under their supervision. Within the Incident Command System, the span of control of any individual with incident management supervisory responsibility should range from three to seven subordinates

- **Chain of Command:** Chain of command refers to the orderly line of authority within the ranks of the incident management organization
- **Unity of Command:** Every individual has a designated supervisor to whom he or she reports to at the scene of the incident. Each individual involved in incident operations will be assigned to only one supervisor
- **Accountability:** Effective accountability at all jurisdictional levels and within individual functional areas during incident operations is essential. To that end, the following principles must be adhered to:
  - **Check In** — All responders, regardless of agency affiliation, must report in to receive an assignment in accordance with the procedures established by the Incident Commander;
  - **Incident Action Plan (IAP)** — Response operations must be directed and coordinated as outlined by the IAP;
  - **Resource Tracking** — Supervisors must record and report resource status changes as they occur.

### Conclusion

All personnel should be trained and exposed to the principles of Incident Command. All personnel should be held accountable to follow the incident command system on all emergency incidents.



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Emergency operations cannot be managed effectively and personnel cannot be accounted for adequately without an established incident command system. The basic principles should be adhered to on every incident. The use of “roving command post” and “freelancing” on any emergency incident should not be permitted.

The facts reveal that a consistent cause of multiple firefighter deaths on fire scenes is the lack of incident command. We owe our emergency responders the most earnest attention, commitment and dedication to this most important safety issue.



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## Accountability

### PURPOSE

- This guideline identifies a system of incident site firefighter accountability.
- To account for all firefighters, at any time, within the most dangerous area of an incident.
- Use of a Personnel Accountability System will provide enhanced personnel safety for the individual firefighter, and will provide the incident command organization staff an improved means to track and account for all personnel and their whereabouts within the danger area.

The danger area will be defined as any area that requires an SCBA, charged hose line, and special protective clothing or in which a firefighter is at risk of becoming lost, trapped, or injured by the environment or structure. This would include entering a structure reported to be on fire, operating in close proximity to the structure during exterior operations, brush/forest fire, confined space or trench rescue, etc.

### SCOPE

All \_\_\_\_\_ Volunteer Fire Department personnel, riding guest firefighters.

### RESPONSIBILITY

All Fire Department members and Duty Officers.

### SAFETY

Accountability involves a personal commitment to work within the safety system at an incident. It will be the responsibility of individual firefighters and other personnel at the incident to keep their officers informed of their activities and whereabouts. Freelancing of activities will not be permitted and can lead to injury and death of the firefighter and others.



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## ACCOUNTABILITY EQUIPMENT

The accountability equipment should include:

- Two (2) ID tags
  - Tags will have as a minimum firefighters name and ID Number.
  - White Tags for Chief Officers.
  - Red Tags for SCBA approved members who can perform interior operations.
  - Yellow Tags for members who are NOT approved to perform interior operations with SCBA.
- Each apparatus should have one (1) collection ring fixed to the apparatus at the pump panel.
- A status board should be available to the incident commander and to any division or accountability officer collecting tags.

## PROCEDURE

- To enhance accountability and to improve tracking of firefighters in the danger area, a two (2) tag system will be used.
- One tag should be affixed to a collection ring on the apparatus prior to entering a dangerous area.
- Upon arrival the collection ring should be turned into command, an accountability officer or designated accountability location upon request, otherwise it is left on the apparatus until requested.
- The initial accountability location may be the first arriving apparatus.
- As additional equipment and crews arrive and prior to entering the danger zone, accountability collection rings will be turned in at the designated accountability location.
- Chief or Senior Officers after assuming command will collect the accountability rings and as the incident escalates place the collection rings on a status board.
- The status board will contain only the tags of those crews in the danger zone. Crews/companies or individuals exiting the danger zone will retrieve their accountability tags or collection ring.
- The second tag must be turned in at the entry point to the building or danger zone.

The division or accountability officer who will track the assignments of teams on a status board will collect these tags. When no *officer* is available for this collection, the tags will be placed at the designated entry point accountability location. Team members will retrieve their tags immediately upon exiting the danger zone.





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### **Member arriving in POV's**

Individual firefighters arriving via personal vehicle should report to the Command Post and have their ID tag affixed to the company or area they are assigned to.

No member should enter a danger area without first reporting to the IC or designated accountability officer. An accountability ID tag must be submitted prior to being assigned.

### **Accountability Supervisors/Division Supervisors**

Accountability Supervisors will be responsible to track and account for all personnel working in their division/exposure or danger area.

Division Supervisors will always maintain an accurate tracking and awareness of crews/individual firefighters assigned to them. This will require the Division/Exposure Supervisor to be in his/her assigned area and maintaining close supervision of crews assigned.

### **Terminating the accountability system**

Accountability will be maintained at least through a report of "fire or situation under control", at which time a roll call for all crews should be obtained.

Command will determine at that time, based on the situation and risk as to whether to continue with the accountability procedure.

If visibility is still impaired or a significant hazardous condition still exists, command may choose to extend the accountability system beyond "situation under control".

Upon termination or release from the incident, the Supervisors or crew leaders will ensure that the tags are returned to the firefighters.



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## POV Operations

### PURPOSE

To establish guidelines while responding to the volunteer fire department incidents, functions and meetings in privately owned vehicles (POV).

### GUIDELINE

- Motor Vehicle Laws

The most significant risk associated with allowing volunteers to respond in their personal vehicles is that they may operate them as if they are emergency vehicles. All too often this leads to accidents. While state motor vehicle laws address this issue, personal vehicles are not emergency vehicles and are not permitted the same, if any, exemptions to motor vehicle laws. For example, while licensed emergency vehicles are allowed to exceed the posted speed limit, move against the normal flow of traffic and proceed through a negative intersection control device, personal vehicles driven by volunteers are required to obey the state motor vehicle law.

- Courtesy Lights

State motor vehicle laws address the use of red “courtesy lights”. Basically these are a visual request asking other drivers to allow you to pass them upon approach. They are not a demand for right of way, nor do they permit the driver to illegally pass or speed up to overtake any vehicle.

### PROCEDURES

- Members responding in personal vehicle must obey state motor vehicle laws with respect to courtesy light and siren privileges.
- Courtesy lights must not be used by volunteers as a license to operate their personal vehicles as if they are emergency vehicles. All courtesy lights should be approved by the Chief of the Fire Department.
- Volunteers responding in personal vehicles should never exceed the posted speed limit.
- Volunteers responding in personal vehicles should come to a complete stop at all stop signs and red traffic signals and must wait for normal right of way before proceeding.
- Any member responding to an emergency call should park at a minimum of 200 feet away from the address of the emergency call location.
- No personal vehicles should block any fire apparatus or fire hydrant. The member should be responsible for any consequences that results in his/her blocking any fire apparatus or hydrants.
- Members responding to an EMS call should park in a manner not to block any access or exit ways in which an ambulance will travel.
  - Individual volunteers must have personal auto liability insurance with appropriate liability limits that protect not only the volunteer but also your organization.

# **APPENDIX 6**

## **ANNUAL REPORT FORMAT EXAMPLE**

## Hemby Bridge Fire Department 2008 Annual Report

The Hemby Bridge Fire Department has a total of 56 members.

- Fire Chief – Johnny Blythe
- Deputy Chief – Paul Ramsey
- Assistant Chief – Ed Crowell
- Captain – Kevin Tice
- Captain – Chris Yates
- Captain – Danny West
- 50 Firefighters

### Part Time.

- 32 Part-time employees
- Monday – Friday  
Day: 1 Duty Officer, 4 Firefighters  
Night: 1 Duty Officer, 3 Firefighters
- Saturday – Sunday  
Day: 1 Duty Officer, 4 Firefighters  
Night: 1 Duty Officer, 3 Firefighters
- All Part-time employees are EMT's

### The Mission Statement for the Hemby Bridge Fire Department

The Hemby Bridge Fire Department's mission is to protect lives and property within the Hemby Bridge Fire District from loss due to fire, natural disaster or other emergencies in a professional and competent manner through the conscientious application of education, prevention, fire suppression and mitigation.

### Services Provided

- Firefighting
- Medical First Responder
- Extrication
- High Angle Rescue
- Search and Rescue
- Mutual aid with surrounding departments
- Community Service

### Chain of Command



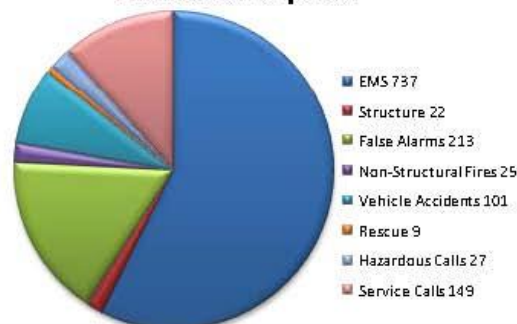
### Apparatus

- Engine 230 – 2002 Spartan Smeal, 1,500 gpm, 1,000 gallon tank
- Engine 233 – 2000 Spartan Marion, 1,500 gpm, 1,000 gallon tank
- Reserve Engine 231 – 1990 Grumman, 1,250 gpm, 750 gallon tank
- Ladder 23 – 2003 Spartan Smeal, 2,000 gpm, 400 gallon tank
- Rescue 23 – 2002 Spartan Marion
- Tanker 234 – 1982 Ford, 1,000 gpm, 1,000 gallon tank
- Brush 236 – 1996 Ford, 150 tank
- Quick Response 238 – 2004 Ford Expedition

### Accomplishments

- Purchased Engine 230
- Purchased land on Faith Church Rd.
- Added day-time position
- Added night-time Supervisor
- Added night-time Duty Officer
- Upgraded fire prevention materials
- Added Target Safety (online training)

### Incident Report



### Statistics

- Land area: 25 square miles
- Population: 20,000
- Personnel: 56 Members  
40 EMT's  
11 Firefighters  
5 Jr. Firefighters
- Community Events: 42 (2,950 people)
- Total Calls: 1,283
- Average Response Time: 7.24
- 2007-2008 Operating Budget: \$1,024,000

## **APPENDIX 7**

# **FACILITY CONCEPT & COST ESTIMATE**

## **Facility Concept & Cost Estimates**

Based on the review and analysis conducted, a facility concept and cost estimate is provided for consideration when stations need to be replaced, which can be used for planning purposes. This will include estimates for site preparation, and building construction based on prevailing costs within the local area. VFIS is not, however, an architectural or engineering firm. Prior to proceeding with acquisition of project funding, it is recommended that the services of a firm qualified in such costing be employed. Note, land acquisition costs will not be included in this estimate.

A basic set of needs for a new facility is provided based on current facility usage. A conceptual facility needs compilation was created by the project team and cost projections were developed for review. This information was taken into consideration.

With regard to the potential costs defined on the attached pages, there are two estimates developed for each type structure. It should be noted that a structure of less sturdy construction is feasible. That would reduce the costs by as much as 50%, but would necessitate a discussion as to the pros and cons of that type of construction.

## **Funding Options**

Based on the cost estimates developed earlier in this report, there are seven funding options regularly used. These might include:

1. General obligation bond – while an option is not the primary method to be considered.
2. Special levy/tax – not considered an option at this time.
3. As a portion of the current funding from the County Fire Tax over a long term period.
4. Fund raising by the department.
5. Property sale by the Municipality – not considered an option at this time.
6. Public-Private Partnership and/or impact fees on development projects.
7. USDA Grants

The actual method used will depend on a financial analysis at the time construction begins. A typical fire station construction timetable is attached for reference.

Additional reference documents related to fire station construction are included for your information.



## Concept consideration for Construction of an Emergency Services (Fire & EMS) Building 5-bay Spec-Type Structure

### Basic Structure Elements:

5 apparatus bays 14' x 80'	=	5,500 sq. ft.
Duty/watch/radio area 12' x 24'	=	268 sq. ft.
Utility Room (laundry, maintenance) 10' x 12'	=	120 sq. ft.
Office/work space 9' x 12'	=	108 sq. ft.
Utility closet 6' x 8'	=	48 sq. ft.
Kitchen 9' x 12'	=	108 sq. ft.
Shower/Locker/Rest Room – male 10' x 12'	=	120 sq. ft.
Shower/Locker/Rest Room – female 10' x 12'	=	120 sq. ft.
EMS Utility Room (laundry, maintenance) 10'x12'	=	120 sq. ft.
EMS Office/Work space 9' x 12'	=	108 sq. ft.
EMS Kitchen 9' x 12'	=	108 sq. ft.
EMS Shower/Locker/Rest Room – male 10' x 12'	=	120 sq. ft.
EMS Shower/Locker/Rest Room – female 10' x 12'	=	120 sq. ft.
Dead storage area 20' x 30'	=	600 sq. ft.
Engineering area 9' x 12'	=	108 sq. ft.
EMS area 9' x 12'	=	108 sq. ft.
Common Day area lounge 20' x 24'	=	480 sq. ft.
Meeting room 50' x 60'	=	3,000 sq. ft.
Estimated 10% common area	=	612 sq. ft.

TOTAL SQUARE FOOTAGE - MINIMUM

11,876 sq. ft.

### Type 1 Construction

Face brick, stone, architectural concrete, good entrance, fully equipped includes classroom, kitchenette, drywall, acoustic tile, good lighting, good plumbing, forced air heat and bathrooms.

\$234.91 /sq.ft. @ 11,876 sq.ft. = \$2,782,665 + land, architectural and engineering costs

### Type 2 Construction

Face brick or stone, good entrance, office, classroom, kitchenette, drywall and acoustical tile, good lighting, good plumbing and rest rooms and forced air heat or heat pump systems.

\$193.43 /sq.ft. @ 11,876 sq.ft. = \$2,297,175 + land, architectural and engineering costs

**NOTE:** This cost estimate is a projection of costs, based on data provided and readily available information on the design and construction of a fire station. It is a conceptual design, not approved by the client. This should not be considered the actual amount or design, but a projected minimum cost of such a project.

# **APPENDIX 8**

## **CONSOLIDATION PROCESS ACTIVITIES**

## **FIRE AND EMS CONSOLIDATIONS** **IN TODAY'S WORLD**

Facing decreased funding and a lack of volunteers or paid staffing to respond to emergencies; many local fire and emergency medical service (EMS) agencies are considering consolidations and mergers with neighboring agencies. Before entering into any agreement and process, it is important to know the workable approaches, challenges, and conflicts that may arise and what to expect once the merger is completed. What the desired final outcome is, must be identified from the beginning of the project.

As with any project there are assumptions and expectations once the project is complete and merging public safety agencies is no different. Unfortunately, the experience of one merger may not be the same as another, therefore, it becomes important to pre-determine expectations and determine if and how they may be achieved or not.

In consolidation projects we at VFIS, have been involved with, we have seen expectations such as:

- Cost savings
- Reduction in apparatus
- Reduction in facilities
- Resolve political problems
- Reduce insurance costs
- Improve response times
- Expand areas of specialization
- Reduce bureaucracy
- Manage financial crises

Unfortunately, reality demonstrated:

- Higher costs
- Inheritance of debt and legacy pension programs/expenses
- New facilities were needed
- Updated apparatus/new apparatus was required
- Politics change over time, not immediately
- Some insurance changed, but property casualty insurance only changes when exposures change (reduce apparatus, facilities, risk level)

Among other items.

In other words, the expectations may not always be realized.

Emergency Service Organization officials find themselves considering a consolidation or merger for different reasons. In some instances, the action is directed by elected officials for whom consolidation is a hot topic. In others, the emergency service organization managers identify consolidation as an option when they seek better and more efficient ways to provide the services their citizens need and deserve. In many instances, state constitutions and laws may encourage

local jurisdictions to consolidate or merge to make the most effective and efficient use of their resources. In other cases, consolidation is a necessity to survive personnel of financial challenges.

In today's world, there are several reasons emergency service organizations (ESO's) see as motivation to merge. These are:

- The fact that there are no artificial boundaries restricting, limiting or driving your options to perform better
- Changes can be made in the name of the merger
- Less government is better, fewer organizations result in less conflict and greater political impact
- There is a potential to lower the Insurance Service Office (ISO) rating
- Economies of scale can be implemented to reduce overhead
- The process forces an examination of, and standardizes programs including training, SOG's, public relations, equipment, and response
- The merger may save money and help absorb a financial crisis
- Consolidations may eliminate redundancy and maximize personnel and equipment
- Consolidations may provide the same service for less cost
- Consolidations may provide more service for about the same/more cost
- Consolidations may help comply with mandates and specialty team needs
- Consolidations helps facilitate coordinated planning which forces strategic planning

You will note there are a number of "may" comments. The opportunities exist through consolidation to accomplish these outcomes, but only with strong leadership and a good plan.

In any event, consolidation should be in the best interest of the people receiving services. To know and understand this means you should know:

Where you stand today strategically, tactically, financially, politically  
What is done today (why they exist and what they do)  
What's on the drawing board  
What obstacles you will face  
Where will you be able to find help

At the end of the day, what makes the difference between success and failure when considering a merger or consolidation follows a 4-step approach that includes:

1. Set goals, commit to them and work toward them
2. Have the guts to work through conflicts
3. Understand that expectations may not meet reality – there is a cost to this process
4. Recognize you are doing this for the benefit of the people you serve, not the municipality or the fire department

This is typically accomplished through a strategic plan, and to effectively accomplish a strategic plan, there must be an understanding of the risks being faced (risk assessment) and how you will manage these risks (standard of cover). In addition, the foundation lies in inter-local governmental agreements and local ordinances. These three topics comprise, what we state as

“Fire Department Operational Management Concepts”. These are detailed in Chapter 2 of this text.

## Why consolidate – Is it “Right” for you

Consolidation can be a viable option which should be looked upon as a beneficial alternative to enable improved use of scarce resources, flexibility of staff, equipment and dollars, stronger internal programs, and increased opportunities to expand. It works to overcome political boundary issues, ensuring that the closest unit responds in an emergency and creates more rational protection service areas and faster response times.

Consolidation can provide for an expanded tax base and reduce redundancy in apparatus, personnel and equipment, and the planning process itself can identify areas for savings not foreseen at the outset. It eliminates turf and tax conflicts and, by providing more efficient and consistent application of available resources, can enable the closure of stations or other duplicated facilities and services.

Consolidation can lower apparatus replacement requirements, reduce the number of reserve pieces required and eliminate duplication of specialty apparatus. Additional cost reductions can be realized through volume purchasing, as well as through combined equipment planning and maintenance. In Contra Costa County, California, consolidation was said to have resulted in a measurable, almost immediate reduction in the tax burden, including a reported 50% decrease in the training budget. With local growth also contributing to the reduction, the tax rate dropped in the first five years, and a capital improvement program was instituted. Tualatin Valley, Oregon, saw a reduction in its tax rate in just four years.

Consolidation can result in a new organization that places more resources on the fireground, a vital interest in a fire protection environment. Improvements in the communities' ratings from the ISO can result from consolidation as well. The elements of a plan that might bring such benefits include better use of *resources*, quicker emergency response times, enhanced training schedules, improved joint communications, improved fireground communications, additional reserve apparatus and enhanced water supply (urban and rural). It can also reduce duplicate administrative burdens.

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***Consolidation  
can provide for  
better use of  
resources.***

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Consolidation also makes fire protection master planning easier during periods of tremendous regional growth. Planning for placement of future facilities, recruiting, hiring and training is supported by the process and eased by the increased resources available. The analysis and revised perspective that grow out of the consolidation planning process can lead to modernized systems. Jurisdictions can become better able to deal with problems that span political boundaries, for example, a chemical recycling operation located in the county. In addition, where multiple jurisdictions respond as mutual or automatic aid, a common set of fire codes and amendments can make enforcement easier to understand and accomplish both for the department and for developers.

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*It is easy to  
customize  
consolidation to  
meet local needs.*

Internally, consolidation can offer more appealing career enhancement possibilities. Although positions at the top are reduced, the organization as a whole is larger, creating more retirements and other turnover and better chances for advancement for bright young officers. In addition, labor contracts can be standardized, and areas or periods of volunteer shortages can be compensated for.

Consolidation does not always work the same. It lends itself to individual customized approaches to meet particular local needs. For example, when city and county fire chiefs in Seminole County, Florida, began looking into consolidation in an effort to help their many separate departments serve their citizens more efficiently, they decided to institute a highly individualized approach. The Chief of the Altamonte Springs explained that something beyond a functional consolidation (combining communication or training functions) was called for, but the kind of consolidation most often considered, in which entire departments combine in total, had little appeal to the local agency/local officials.

"There seemed to be a lot of pain that went along with major consolidations," Siegfried recalls, "and, in some cases, it even worked out that the price tag went up and the level of service went down." In 1975, after a period of intense study and discussion, the fire chiefs of Seminole County entered into a joint venture that is in some ways a partial consolidation and in other ways similar to a broad mutual aid agreement. But it also is more, softening jurisdictional boundaries by instituting automatic first response by the closest company regardless of those boundaries using a countywide dispatch system. This interlocal agreement found the foundation for the cooperation.

Response zones were established that ensure response by the nearest piece of equipment. Fire stations have been located strategically, with one city and one county facility moved to provide better coverage. Location of specialized apparatus and equipment, such as aerial trucks and rescue rigs, is thoughtfully planned. "We've become much more efficient, protecting more people with fewer people," Siegfried reports. For example, for a multiple company response in the city of Altamonte Springs, the assigned response might consist of an engine from Altamonte Springs, another from the county, an aerial truck from another city and a rescue truck from somewhere else. "That means we don't have to have all of those pieces of equipment available in every jurisdiction," he adds.

In one scenario, area departments took the unconventional step of instituting similar cooperative agreements with neighboring Orange County. "Now we're working on linking the two major county communication networks so that a call coming in for part of Orange County that's closer to one of Seminole County's stations automatically will be routed to the Seminole communication center," Siegfried notes. Modern 800-MHz computer-aided dispatch systems enable such flexibility.

The most notable advantage of this approach, he suggests, is that each department maintains its identity and autonomy while becoming more efficient which, in turn, satisfies politicians. "They let the fire chiefs do their jobs, finding the most effective and efficient way to provide fire protection services," he observes. "At first, they might check numbers constantly, how many of



everything they're contributing and how much of everything else they're getting back. But they get over that after a while and just let it operate. The reality is that, over time, it tends to even out pretty well."

## Considerations, potential pitfalls and keys to success

Organizational change is a thorny matter, should not be undertaken without careful consideration and most likely will not be achieved easily. Change can be especially difficult in the tradition-bound fire service. It is particularly challenging to attempt a process which often is perceived as reducing each jurisdiction's autonomy and power. Emotions can become so entangled in discussions that progress is stymied before any benefits are seen. Further, combining a larger, more sophisticated department with a smaller, less sophisticated one can bring the level of service enjoyed by the larger jurisdiction down and still cost more than the smaller jurisdiction is accustomed to paying.

Experience in fire organizations across the United States has indicated many ways in which consolidation efforts can fall short of expectations. Reasons for failure can include less-than-ideal timing, the departments involved being too different, or too distant, creating conflict from one another, lack of support among members of the departments, fear of loss of control by local government officials, and incomplete or ineffective communication; the list is long. Such issues as the name of the new organization, the color of emergency apparatus and selection of an individual to head the organization, among many others, all can derail consolidation discussions.

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*Many possible  
pitfalls can  
derail a  
consolidation  
effort.*

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A consolidation cannot be a reduction-in-force in disguise; the truth will emerge during the planning process, sabotaging the atmosphere of trust and cooperation which must form the foundation for consolidation. In fact, in some states, laws prohibit communities from laying personnel off under such conditions. Further, such expectations likely will not materialize because savings resulting from a consolidation are more likely to come on the capital side, not the personnel side. Still, such a move eventually might reduce personnel through attrition and reassignment can put personnel to more-efficient use. In fact, the whole area surrounding the issue of personnel can prove difficult when planning and effecting a consolidation. Also consolidation may result in hiring new career personnel to improve time from new stations that may be further apart.

Also, impact bargaining, differences in compensation and workloads, consolidation of unions and civil service/ personnel systems, selecting key staff for the new department, possible loss of job status for some employees, social, economic, philosophical and cultural differences, and personal problems all are factors that, if not afforded adequate attention in the early stages, can sink a consolidation/merger plan. Drawing lines for a new organization, developing universally acceptable rules, policies and procedures, and standardizing equipment present challenges of their own. A review of different union, work rules, contracts for each agency and how they integrate is important. One recent merger involved two different unions, firefighters and

teamsters and very different work rules and letters of understanding. Not doing your homework in this area can have serious consequences if not fully addressed.

In addition, it is important to remember that consolidation is not always appropriate in every circumstance. Until a thorough study of the potential benefits and pitfalls has been made, the decision to merge or consolidate should not be made. Further, it is possible that the preliminary study will indicate that it is not in the best interests of the parties to do so.

However, none of these potential problems need destroy a sincere effort at consolidation if those behind the plan approach their work with care and forethought, aware and respectful of the potential pitfalls, as well as the potential benefits. There are enough possible reasons to move forward with the idea of consolidation to more than compensate for the complexity of the task. Primary among them is that consolidation can create a more flexible, appropriate and sensible local organization. On balance, the known advantages of consolidation can outweigh the disadvantages. Consolidation activities can form the basis for a win-win situation in which all the players can gain something.

Just as experience has pointed to possible challenges in attempting to consolidate or merge, it also has identified a set of factors that will help bring success. Some factors involve the baseline characteristics of the organizations. If the involved organizations have pre-existing cooperative relationships, they are more likely to find the way to consolidation smooth. Officials of all involved jurisdictions and agencies must support the idea and commit their efforts to success. Everyone involved must be open and honest about their interests. Enough time must be available for planning, and communication, with top-level government officials, with members of the departments and their families, and with the media and public, is critical.

#### **Key Personnel Issues**

There are certain factors that, if not given adequate attention in the development stages, can sink a fire department consolidation plan.

Those factors include:

- impact bargaining
- differences in compensation and workloads
- consolidation of unions and civil service/personnel systems
- selection of key staff for the new department
- possible loss of job status for some employees
- social, economic, philosophical and cultural differences
- human resource issues

Throughout the years, volunteer firefighters have served to protect their communities. The current estimate of savings to the local communities throughout the county has been calculated to be approximately \$32 billion. The demands of firefighters in terms of training, community service and administrative responsibilities have, without a doubt, driven men and women out of the fire service. With declining numbers of responders, progressive firefighters can look at their neighboring fire company and make a proposal that a consolidation may be in the best interest of the members, as well as the residents.

For some members, consolidation can be an emotional experience. The loss of identity for the fire company could also have a negative impact on the morale of the membership. When the firefighters realize the newly configured fire company can attract new members, can motivate the current members and will improve their operational readiness, they will continue to serve the

public with a first-class approach.

Leadership must come from the top, from both local elected and appointed officials and from fire department management. The support of a county or regional fire chiefs' association could be beneficial as well. However, the role of the fire chiefs of the involved departments is the ultimate keystone. A consolidation effort is doomed to failure without the full support of all the involved fire chiefs, and that commitment must be genuine and total. The vision for the future must be clear, and the moral obligation to the community must come first. Self-interests must be set aside.

The question of who will lead the consolidated organization is a vitally important matter and must be considered from the outset. The leader of the new department must meet a wide array of challenges and must be up to the task. Sometimes, the most effective route is to bring in someone new from the outside, someone without ties to the preceding organizations, but this is not always effective. If two (or more) organizations are considering consolidation and one of the involved fire chiefs is scheduled to retire shortly, this can solve the problem of consolidating multiple fire chiefs into a single position, but it is no guarantee.

Occasionally, two consolidating chiefs can reach a mutually satisfying arrangement that meets individual interests, perhaps designating one as chief of the department and the other as operational chief.

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***Selection of the individual who will lead the department is vitally important.***

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However, selection of the individual to head selection of the new organization is of immeasurable importance, and no one should assume that the position belongs to him or her. Skills and capabilities should be the sole determining factor applied to selecting leadership for the new organization.

The public also must be considered and sold on the idea of consolidation, both through the media and through appearances by local fire chiefs before civic and neighborhood groups to explain the reasons for and benefits of consolidation. Develop an informational program for the public which provides all the basic facts and which stresses that the fire department isn't going anywhere, simply improving itself. Ensure that involved officials, elected and appointed, are available to the media for interviews and background explanations. Photographs of representatives from the different communities working cooperatively together can be especially effective in bolstering public support.

Convincing the public will not be easy and should be recognized as a long-term process but, if the communication process is planned carefully and conducted properly, support will outweigh resistance. If the public information effort is solid, citizens can prove to be the easiest group to convince of the benefits of fire department consolidation. Keep in mind that, while it might not matter to citizens whether their fire protection comes from a local or multijurisdictional organization, "they do want to know where responsibility lies and who to hold responsible."<sup>17</sup>

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<sup>17</sup> Williams, *Subregional and Extraregional Cooperation in the State of South Australia*

The need for internal communication is equally vital. Labor and other employee groups should be involved from the start. Fears about job security and pensions are natural and should be addressed openly and honestly throughout the process. Stress that the resulting organization will be stronger and offer increased promotional opportunities. Be aware of the need for lightning-quick and razor-sharp rumor control because resentments can build rapidly based on a wisp of a rumor.

Inform all of these groups early in the process and then keep information flowing through regular briefings and/or a series of special newsletters or bulletins. Especially, make any groups affected by the consolidation a part of the process through appropriate participation on a working group designing some element of the new system.

Every type of consolidation carries with it its own individual needs that must be met consistently if the operation is to succeed. For example, the cooperative venture that is in place in Seminole County, FL, requires each participating chief to be continually aware of what the other jurisdictions are doing that might have an impact on what they are trying to do together. It requires planning and open communication, and chiefs must ensure that competition doesn't lead to duplication of effort and resources. When department A purchases an aerial truck, department B might think it should have one too, even though it's only necessary to have one to share. It takes time to keep tabs on everything and to ward off that kind of competitiveness, particularly in the early stages.

Consolidation can provide the best possible level of service with available resources, but it will need the support and leadership of local officials and fire department members. More than one effort has failed because some key group, for example, firefighters or the political leaders in the community, perceived they would lose something.

Consolidation and the process for achieving it are not difficult to understand or to do, but they do require diligent staff work, careful communication and top-to-bottom commitment. Certainly the process will place demands on local fire department officials, but we, as managers, should be clever enough to handle the complexity and adjust our approaches to fit the needs of the organization.

☐ Step 1

Members of the interested organizations begin tailboard discussions regarding a possible new partnership to deal with dwindling members, increasing costs, higher community expectations or some other defined issue.

☐ Step 2

After reaching positive feedback from these informal talks, a fact-finding committee is established to gather additional information on the available options.

☐ Step 3

The fact-finding committee reports back with this finding to the respective organizations. If the committee recommends pursuing a partnership and the membership agrees, the companies should take a VOTE OF CONFIDENCE to begin formal discussions.

☐ Step 4

The companies then need to establish a steering committee. The committee should consist of a maximum of three (3) members from each company. Along with the members, each company should appoint a citizen and business person from the community. Also, a representative of municipal government should be appointed.

**NOTE: Based on the state, form of government, oversight and regulatory system for the provision of fire protection, the terms may be different, however, the communication process is what is critical to determine approvals, cooperation and direction occur in the interest of providing public safety services to the general public.**

☐ Step 5

After the steering committee is created, the first meeting should be held and officers selected. A chairperson, vice chairperson and secretary are needed. The chairperson should not be an active member of any of the emergency service organizations involved in the consolidation.

☐ Step 6

At the first meeting, establish a few rules for conducting the meeting. This will help you stay focused.

☐ Step 7

The FIRST GOAL of the committee is to review the available partnership options and select a model to use. Merged organizations, consolidated organizations, alliances, and regional fire districts are all used extensively. You can also create something for your specific needs.

☐ Step 8

The SECOND GOAL is to decide on the administrative structure for running the new partnership. Do you want to stay with the traditional President, Vice President, and Trustee model? Do you want to create a Board of Directors type of structure? Do you want to create a hybrid model?

☐ Step 9

Along with the structure, the committee will need to decide on the following organizational items at a minimum:

- \_\_\_ Administrative Officers (elected, appointed, or both)
- \_\_\_ Operational Officers (elected, appointed or both)
- \_\_\_ Organizational Chain of Command (both administrative and operational)
- \_\_\_ Membership Categories
- \_\_\_ Draft By-Laws
- \_\_\_ Financial Requirements
- \_\_\_ Funding Model

☐ Step 10

Once you've decided on the model and structure, then the committee should make a preliminary presentation to the members to gain feedback. The feedback can then be used to improve the model and structure. You can also take a simple hand vote to see if members are supportive at this point.

☐ Step 11

The committee takes any feedback and improves the model and structure (including public input).

☐ Step 12

Once the model and structure are finalized, the committee makes its formal recommendation to the membership of the companies.

☐ Step 13

The companies then notify the members in accordance with the law to formally vote on the partnership plan.

☐ Step 14

Assuming the majority companies approve the plan, the next step is to expand the steering committee.

☐ Step 15

Add additional members to the committee as needed and create sub-committees to finalize several parts of the plan. They include the following:

- a. By Law Sub-committee
- b. Financial and Funding Sub-committee
- c. Rebranding Sub-committee



☐ Step 16

Retain an attorney and an accountant. These two professionals will be needed to assist with preparing and filing the necessary legal and financial documents.

☐ Step 17

Establish a start date for the new partnership.

☐ Step 18

Submit the required documents to the applicable county/state agency, etc. for approval.

☐ Step 19

Upon the new organizations being created, the company will begin conducting business.

☐ Step 20

The legacy organizations will conduct their final meetings to complete any necessary business.

☐ Step 21

The new partnership should adopt a 5 year strategic plan to set benchmarks and to establish tangible goals.

## **FIRE DEPARTMENT CONSOLIDATION**

*Consolidation should be in the best interest of the people receiving services. Key questions to be asked include:*

Where do you stand today?

What is done?

What's on the drawing board?

What obstacles do you face?

Where do you need help?

Why consolidate or merge?

- less government is better
- potential to lower ISO rating
- economies of scale
- forces an examination of the program
- saves money
- eliminates redundancy
- maximizes personnel and equipment
- provides same service for less money
- provides more service for about the same money
- provides more service for more money
- facilitates coordinated planning

Benefits

- helps comply with mandates and specialty team needs
- strategic location for infrastructure
- no artificial boundaries
- changes can be made in the name of the merger
- reduces overhead
- standardizes services and programs
  - o training
  - o public relations
  - o equipment
  - o response
- political clout
- ability to absorb financial crisis
- forces strategic planning

## 1. Determine Feasibility

How does this relate to the potential for the organization being looked at?

### PLANNING GROUP

#### **IMPLEMENTATION GROUP** (administrative/finance officials)

Structure  
Funding Mechanism  
Taxpayer Impact  
Jurisdictional Impact  
Public Relations  
Transition  
Indebtedness

#### **TECHNICAL STUDY GROUP** (fire officers)

Administration  
Operations  
Training  
Maintenance  
Communications  
Support Services  
Fire Prevention

### WORKING GROUPS

#### **ADMINISTRATION**

Staffing  
Structure  
Policy  
Organization  
Budget  
Employee/Volunteer Relations  
Public Relations

#### **OPERATIONS**

Policies and Procedures  
Suppression  
Medical  
Rescue  
Hazardous Materials  
Other

#### **FIRE PREVENTION**

Code Implementation  
Building Inspection  
Plan Reviews  
Prevention Programs  
Investigation

#### **TRAINING**

Standards  
Facilities  
Equipment  
Funding  
Instruction

#### **COMMUNICATIONS**

Dispatch  
E-911  
Protocols  
Frequencies  
Telephone  
Radio Maintenance  
Computers

#### **SUPPORT SERVICES**

Purchasing  
Finance  
Risk Management  
Insurance  
Human Resources  
Mutual Aid Agreements

#### **MAINTENANCE**

Fleet  
Equipment  
Facilities

#### **FIXED ASSETS**

Inventory  
Reimbursement  
Ownership

## **2. Form and Activate an Advisory Group from a team of local government officials, fire and EMS agency(ies) and local groups.**

## **3. Identify Key Needs, Issues, Requirements, and Constraints**

Service Delivery Model/Standard of Response Cover

Elected Officials

Finances

Management

Merging Departments/Workers

People

Apparatus & Equipment

Facilities & Maintenance

## **4. Develop Goals and Objectives**

Strategic Plan

- **Establish Criteria for Selecting Programs and Approaches**
- **Develop and Analyze Alternative Programs and Approaches**
- **Formulate an Action Plan**
- **Implement the Plan**
- **Monitor Implementation**

# **APPENDIX 9**

## **CONSULTING TEAM**

## **Consulting Team**

### **William F. Jenaway, Ph.D., CFO, CFPS, Principal Consultant, Project Manager.**

Dr. William F. Jenaway, CFO, CFPS will serve as Project Manager for this engagement. Dr. Jenaway is the CEO of VFIS-ETC responsible for training, education and consulting services provided to client of VFIS and VFIS-ETC. His organization provides training to over 20,000 fire/EMS personnel annually and provides technical guidance and consultation to over 200 agencies annually. He has served as Chief and Fire Marshal of the East Bethlehem Township, Pennsylvania Volunteer Fire Department; and as Chief and President of the King of Prussia, Pennsylvania; Volunteer Fire Company, as well as being Chairman of the municipality's Fire and Rescue Services Board. Under Chief Jenaway's leadership, the department became the first all volunteer Accredited Fire Service Agency in the US. Fire Chief Magazine named him the "Volunteer Fire Chief of the Year" in 2001. Bill's background includes 30-plus years of volunteer fire and EMS experience.

In 2004 he was named to Chair the Pennsylvania Senate Resolution 60 Commission to evaluate and provide recommendations to the Pennsylvania legislature and fire service on strategic approaches to the state's fire and EMS delivery system.

Over the years, Bill has authored over 200 articles, seven texts and provided over 100 speeches on fire and life safety issues. He holds Certified Fire Protection Specialist and Certified Fire Officer designations as well. In 1999 he was named to the Presidential/Congressional Commission known as the "Advisory Panel to Assess preparedness for Terroristic Acts Involving Weapons of Mass Destruction" (a/k/a Gilmore Commission). Dr. Jenaway also serves as President of the Congressional Fire Services Institute and is Past President of the Pennsylvania Fire Services Institute. He serves on the National Fire Protection Association Committees of Emergency Services Risk Management; Providing Emergency Services to the Public; Fire Department Apparatus, and Fire Service Training. Dr. Jenaway is in his second, three-year term as a Commissioner on the Commission on Fire Department Accreditation.

Bill serves as an adjunct faculty member in the Graduate School of Public Safety at St. Joseph's University in Philadelphia (Risk Analysis, Strategic Planning & Disaster Preparedness) and the Graduate School of Legal Studies at California University of Pennsylvania (Terrorism Threat Assessment)

Bill is an elected official – Township Supervisor – in Upper Merion Township, Montgomery County, Pennsylvania.



**Richard Trexler, Consultant, Project Member, Team Leader.**

Richard retired as fire chief of Colfax Fire Department in Guilford County, NC after twenty years of service. He has worked on many projects with VFIS-ETC as a consultant. Richard worked with New Hanover County NC and Brunswick County NC, on an evaluation of the fire departments in those counties. He was project manager in Davie County, NC on an evaluation of fire and rescue services. He assisted with projects in Brenham, Texas; Port Washington, NY; Okeechobee, FL; Estero, FL; and Johnstown, PA, among other. He was instrumental with the growth study in Winston Salem, NC and has worked with the cities of Greensboro and High Point in NC on consolidation/merger studies and the development of Strategic Planning efforts. Richard has been a presenter at the Fire Department Instructors Conference and at regional and state conferences. He worked with Guilford County in NC in the development of a Strategic Plan involving twenty seven fire departments. Richard has extensive experience working with LEPC groups and in the delivery of training programs for industrial groups

In addition to his 20 years as Fire Chief of the Colfax Fire Department, he has a total of 39 years volunteer and career experience with volunteer and combination departments; is a member of the NFPA 1720 Committee “Standard on Fire Department Operations in Volunteer and Combination Fire Departments” (including EMS and rescue) and has served on boards of fire departments and rescue squads. Additional affiliations include Chairman, North Carolina Fire and Rescue Commission; President, North Carolina Fire Chiefs Association, and Chairman, Training Committee of Guilford County LEPC

**Daniel B.C. Gardiner, M.S., CFPS, Consultant.**

Daniel B.C. Gardiner retired as the Chief of the Department of Fire-Rescue Services, in Fairfield, Connecticut, serving there for 31 years. Fairfield is a combination (career and volunteer) fire/EMS department. Prior to his appointment as Chief, he was the department’s Budget Control Officer, in charge of a budget of over eight million dollars. Chief Gardiner holds a Bachelor’s Degree in Fire Science and holds two Masters Degrees, one in Public Administration and one in Fire Science Technology, from the University of New Haven, Connecticut. He serves on the NFPA 1021 Committee (Fire Officer Standard). Chief Gardiner has been extensively involved in fire department consulting projects as well as managing and conducting assessment center activities for various positions throughout the Northeast. He has also provided testimony before numerous fire commissions, boards of inquiry and study panels, in addition to serving on a number of review boards as well. An author of a number of fire service texts and articles, Chief Gardiner edited the book, *Managing Fire Department Operations*, and co-authored the best selling text, *Fire Protection in the 21<sup>st</sup> Century*. Now serving his fifth term as a Director of the Certified Fire Protection Specialist Board, Chief Gardiner speaks nationally on fire protection, and fire service finance. He is a past president of the International Society of Fire Service Instructors and a past president of the Fire Department Safety Officers Association.

### **Robert Drennen, M.S. CFPS, Consultant.**

Robert Drennen is the Director of the St. Joseph's University Public Safety and Environmental Protection Master's Degree Program. Within this program Mr. Drennen directs the students' development and the course program. Research papers of the students serve to broaden the perspective of Mr. Drennen and his team in the development of new techniques and procedures for fire service. Under the direction of Mr. Drennen, St. Joseph's worked with Dr. Jenaway in the development of an efficient and effective model for businesses to utilize in the preparation, prevention, response and recovery to emergencies as well as projects for the National Volunteer Fire Council involving volunteer recruitment, retention and cost savings. Mr. Drennen is responsible for student research projects, many of which involve specialized evaluations of their local emergency service organization. This provides him with a unique insight and understanding of current trends in volunteer and combination fire service operations in the Mid-Atlantic states. Mr. Drennen holds a Masters Degree, is a Certified Fire Protection Specialist and is a retired Chief Officer of the Philadelphia Fire Department, and served as Safety Officer of the Willow Grove, PA, Fire Company. Currently he is the Director Of Emergency Services in Upper Moreland Township, Pennsylvania.

### **Ryan Pietzsch, Project Member, Consultant**

Ryan is an Education and Training Specialist for VFIS, a subsidiary of the Glatfelter Insurance Group. His responsibilities include: National coordination and delivery of education and training programs, curriculum development, information analysis, and consulting for VFIS. He is a member of the Safety Team for Glatfelter Insurance Group, and is a member of the NFPA 1500 and 1000 series Technical Committees.

Ryan retired as a Career Fire Lieutenant in 2011 after 18 years of service with the West Des Moines Fire Department, in West Des Moines, Iowa. He started his career in 1990 as a fire explorer, became a firefighter, a fire service instructor, a Total Quality Management instructor and Emergency Medical Technician. Ryan has held the ranks of Volunteer Firefighter, Career Firefighter and Career Fire Lieutenant. Ryan brings a unique and fresh view to VFIS. He has extensive knowledge and experience in the fire and EMS services and strives to provide emergency service personnel with education through training and consulting. He was also been a Real Estate professional in Iowa and brings unique background as an entrepreneur. He is currently an active Firefighter/ EMT with Silver Spring Community Fire Company in Mechanicsburg, Pennsylvania.

Ryan is a 1998 graduate of Grand View College in Des Moines, Iowa where he received a Bachelor of Arts Degree in Liberal Arts. He is currently pursuing his Master's Degree in Safety, Security and Emergency Management from Eastern Kentucky University in Richmond, Kentucky. He graduated from the Des Moines Fire Academy in 1999 and received his Fire Science Certificate from Des Moines Area Community College in 2002. He continues to conduct training and consulting projects on various emergency service related topics across the United States.

### **Greg Jakubowski, M.S., P.E., CFPS, Consultant.**

Greg is a principal founding partner responsible for project management and technical oversight for Fire Planning Associates, a Bucks County company that provides pre-emergency planning, ISO review and submittals, and fire protection engineering to municipal and private clients. Recent assignments include conducting NFPA 1500/1710 audit for 5-station county fire department, leading preplanning effort for a \$140MM pharma plant in Asia, a 13 building, 2.5MM square foot research/office campus, and a major finance company headquarters for 4000+ employees.

He is an experienced firefighter/command officer for over 30 years and has responded to more than 9,000 emergency incidents. He currently serves as Chief of the Lingohocken Fire Co. in Central Bucks County, PA where he has led an effort to reduce the ISO rating in 1 community from a 9 to a 7 with no public water supply, resulting in community savings estimated at \$50,000-75,000 annually. He has been responsible for managing fire department budgets exceeding \$200,000 annually, and has led numerous successful federal and state grant efforts approaching \$500,000. He has also led efforts to transition all-volunteer departments to combination departments, and has served in some of the largest combination departments in the US.

Greg has a B.S. in Fire Protection Engineering from the University of Maryland, and a M.S. in Public Safety from St. Joseph's University. He is a licensed fire protection engineer in Pennsylvania and New Jersey, a certified safety professional (CSP) and nationally recognized author and instructor. He has over 20 years experience in leading and improving safety and fire prevention from a Fortune 100 site and corporate perspective, including large capital projects valued at more than \$3BB. Greg is an experienced manager of major projects that include, safety, fire protection and environmental engineering design, employee training, system evaluation, hazards analysis, preplanning and fire control methodologies. He has developed and taught classes in several Philadelphia-area fire science and safety college curriculums, teaches for the National Fire Academy, and has instructed emergency response programs to thousands of students in 9 states, Puerto Rico, Brazil, Costa Rica, France, Singapore, Ireland, China, Korea, Canada, and South Africa. He has served on committees to expand/update the physical plant for the Lower Moreland Township (Montgomery County) School District, and currently serves on the Buckingham Township (Bucks County) Technical Code Review of Appeals Board. Greg was nominated by his peers as a Fellow in the Society of Fire Protection Engineers.

***Each of these individuals has extensive experience in the management, operations, and professional development of fire-rescue personnel in communities similar to Moore County, North Carolina***

The expertise in analytical approach, knowledge of the discipline, knowledge of the region, and in establishing benchmarks is the hallmark of the team assigned to this project that would assure success. In addition, the opportunity for fire service representatives in Moore County to learn from this team's vast experience is enormous. Most importantly they all work together to understand the future needs and enhance the county's emergency service system. We maintain representatives on these committees as follows:

NFPA 1201 – Bill Jenaway, member and former chair

NFPA 1250 – Bill Jenaway, member and former chair

NFPA 1500 – Ryan Pietzsch member

NFPA 1001 – Mike Young member

NFPA 1901 – Bill Jenaway member

NFPA 1720 – Richard Trexler member

NFPA 1021 – Daniel B.C. Gardiner

NFPA 1600 – Greg Jakubowski member

Bill Jenaway served as Vice Chair of the Commission on Fire Service Accreditation.

# **APPENDIX 10**

## **REFERENCES**

## References

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- ✓ NFPA 1500 Standard on Fire Department Occupational Health and Safety Program
- ✓ NFPA 472 Standard for Professional Competence of Responders to Hazardous Materials Incidents
- ✓ NFPA 1561 Standard on Emergency Services Incident Management Systems
- ✓ NFPA 1600 Standard on Disaster/Emergency Management and Business Continuity Programs
- ✓ NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Service Communications Systems
- ✓ NFPA 1620 Recommended Practice for Pre-Incident Planning

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